

# New Thinking

Spring 2018  
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ABOUT THINKING

A Publication by Cleveland Clinic Lou Ruvo Center for Brain Health



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Research, treatment and education for patients and families living with brain disorders  
Alzheimer's • Huntington's • Parkinson's • Frontotemporal Dementia • Multiple Sclerosis • Multiple System Atrophy

# A Terrific Future for This Brain Health Center

For the past eight years, I have been privileged to lead Cleveland Clinic Lou Ruvo Center for Brain Health. I am delighted with the progress we have made during this period. Starting with an initial team of 25 employees, two physicians and a few clinical trials, we have grown the Lou Ruvo Center for Brain Health to a highly visible, nationally recognized clinical care and research enterprise with widely respected programs in Alzheimer's disease, Parkinson's disease and multiple sclerosis.

We now have more than 150 employees and staff, a building bursting at the seams with people and activity, leading-edge technology for brain scanning and remarkable research teams pushing the envelope of new knowledge for brain imaging and clinical trials. We are testing innovative new drugs that have the potential to treat and prevent brain disease. The center is in the full stride of its growth and holds exceptional promise of future success.

It is time for a new engineer to drive the train. I will transition to a part-time engagement with our research and clinical programs to allow more autonomy and more time with my wife, Kate.

The new Director, Marwan Sabbagh, MD (see page 6), is a close friend and an accomplished leader in neurology

and in Alzheimer's clinical trials. I am confident that, as the new head of the Lou Ruvo Center for Brain Health, he will lead this superb program to its next level. Together with Camille and Larry Ruvo, Cleveland Clinic and all of my colleagues, we have erected an incredible platform on which to build an even greater program.

I will enthusiastically support Dr. Sabbagh and all the activities of the Lou Ruvo Center for Brain Health as we look toward a future with terrific new opportunities in care and research.

## **Jeffrey L. Cummings, MD, ScD**

*Camille and Larry Ruvo Chair for Brain Health*

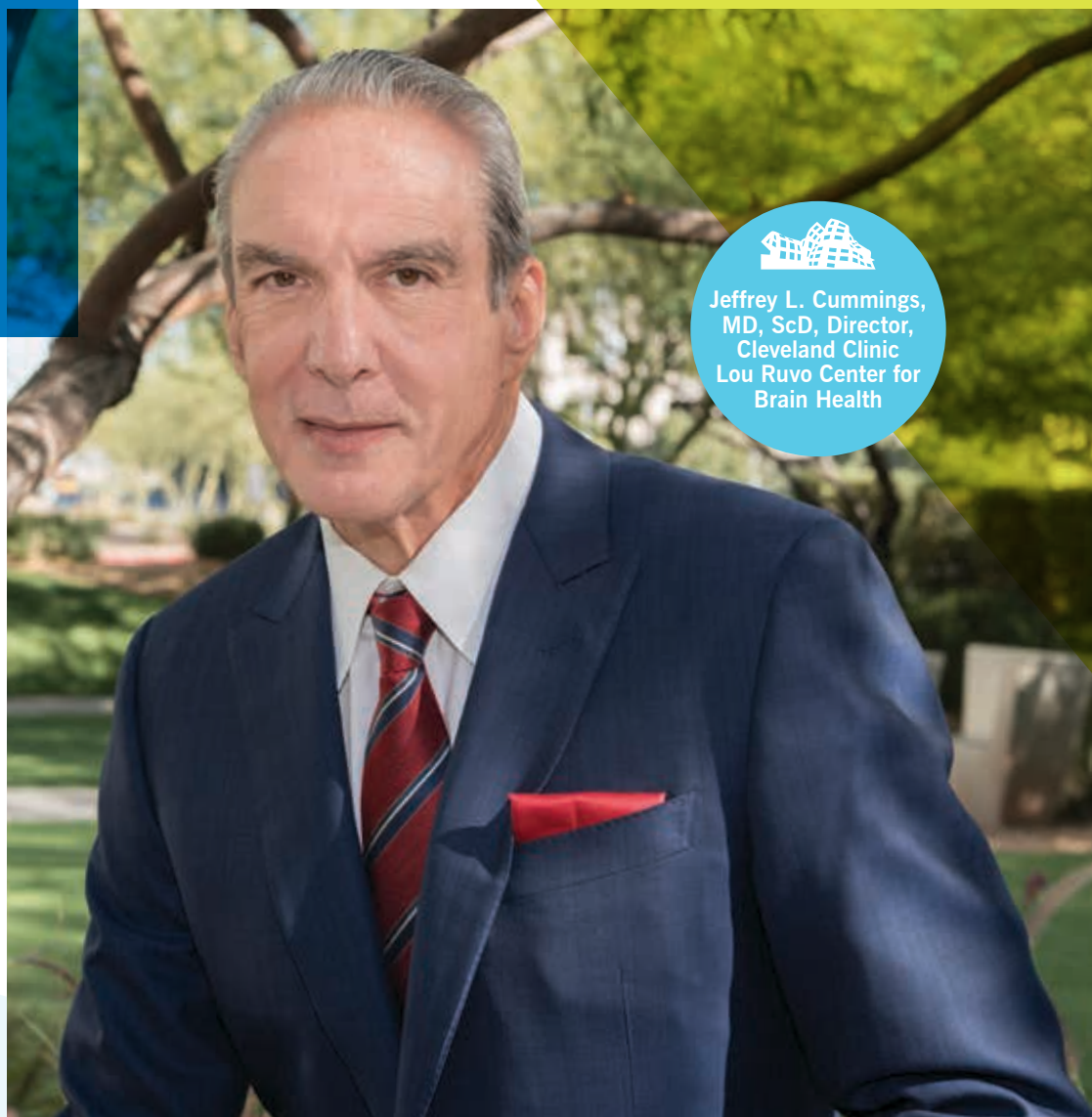
*Director, Cleveland Clinic Lou Ruvo Center for Brain Health*

*Director, Center for Neurodegeneration and Translational Neuroscience*

*Professor, Cleveland Clinic Lerner College of Medicine*



Jeffrey L. Cummings, MD, ScD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health





# New Thinking

ABOUT THINKING

Cleveland Clinic Lou Ruvo Center for Brain Health  
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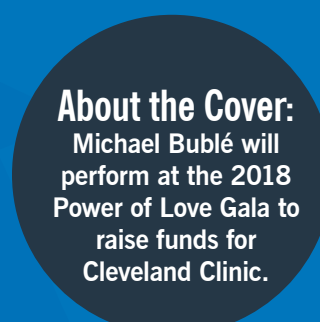
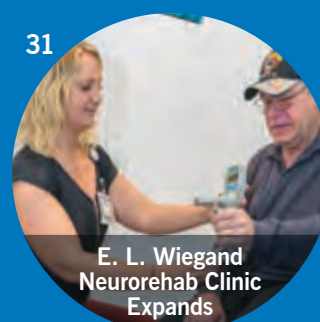
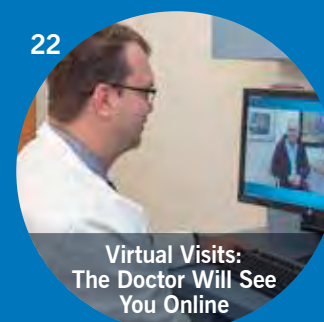
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# 22nd Annual Power of Love® Gala

On Saturday, April 28, we'll host Keep Memory Alive's annual fundraising gala, the Power of Love®. **Michael Bublé** will perform.

If you haven't yet attended the Power of Love, envision an evening of first-rate headliner entertainment, food prepared by celebrity chefs and wine chosen by master sommeliers. Now imagine that same evening in the entertainment capital of the world.

Over the past 21 years, our Power of Love gala has become one of Las Vegas' signature celebrity events that attracts a national audience. Chefs represent a culinary who's who: this year, **Wolfgang Puck** and **Jean-Georges Vongerichten** will be in the kitchen. Following a reception replete with Dom Pérignon, master sommeliers hand-select world-class wine pairings to accompany each chef's preparation.

Then, entertainment kicks into high gear. Guests have been entertained by legends, A-listers and Grammy Award winners: Tony Bennett, Andrea Bocelli, Jon Bon Jovi, Bono, Michael Bublé, James Corden, Celine Dion, Snoop Dogg, Gloria Estefan, Cee Lo Green, Herbie

Hancock, Jennifer Hudson, Enrique Iglesias, Carole King, LL Cool J, Lenny Kravitz, Queen Latifah, Barry Manilow, Ricky Martin, Melissa McBride, Rita Moreno, Lionel Richie, Siegfried & Roy, Steven Tyler, Stevie Wonder and many other luminaries.

But this gala is much more than a party.

It's an annual celebration of life that exists to raise money for Cleveland Clinic Lou Ruvo Center for Brain Health's programs, services, community outreach and research. It underscores the critical role of generous donors, all of whom share the mission of eradicating devastating brain afflictions forever. In fact, the Power of Love is our single largest source of funds.

We need you. And we're ready to entertain you.

Please join us on Saturday, April 28, to raise funds for better treatments — and, perhaps one day, a cure — for these diseases that pose an unacceptable threat to our future.



Wolfgang Puck

## INTERESTED IN OUR EVENTS?

You may purchase tickets online at [keepmemoryalive.org](http://keepmemoryalive.org) for a variety of Keep Memory Alive events throughout the year. Please contact us anytime at 702.263.9797 or [events@keepmemoryalive.org](mailto:events@keepmemoryalive.org) for more information or to join our monthly events email updates.

Follow Keep Memory Alive on Facebook, Twitter or Instagram for the most up-to-the-minute event details.





Michael Bublé

## MICHAEL BUBLÉ

THE 2018 POWER OF LOVE® SUPERSTAR ENTERTAINER

Michael Bublé strikes musical, romantic chords that make you swoon. You know the Grammy Award-winning, multiplatinum virtuoso from his hits "Everything," "Haven't Met You Yet," and "Home."

Michael Bublé's unprecedented musical journey began with the release of his self-titled top ten album, which won two Grammy nominations.

In 2008, his album *Call Me Irresponsible* brought Bublé his first Grammy for Best Traditional Pop Vocal Album. This win was repeated in 2011 when the album *Crazy Love* won the Grammy, as did *To Be Loved* in 2014. His Christmas album has sold more than 10 million copies worldwide.



Jean-Georges Vongerichten



## PLEASE JOIN US FOR THE 2018 POWER OF LOVE® GALA

Enjoy a special performance by **Michael Bublé**. Dine on a one-time menu provided by world-renowned chefs **Wolfgang Puck** and **Jean-Georges Vongerichten**.

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

**SATURDAY, APRIL 28, 2018**

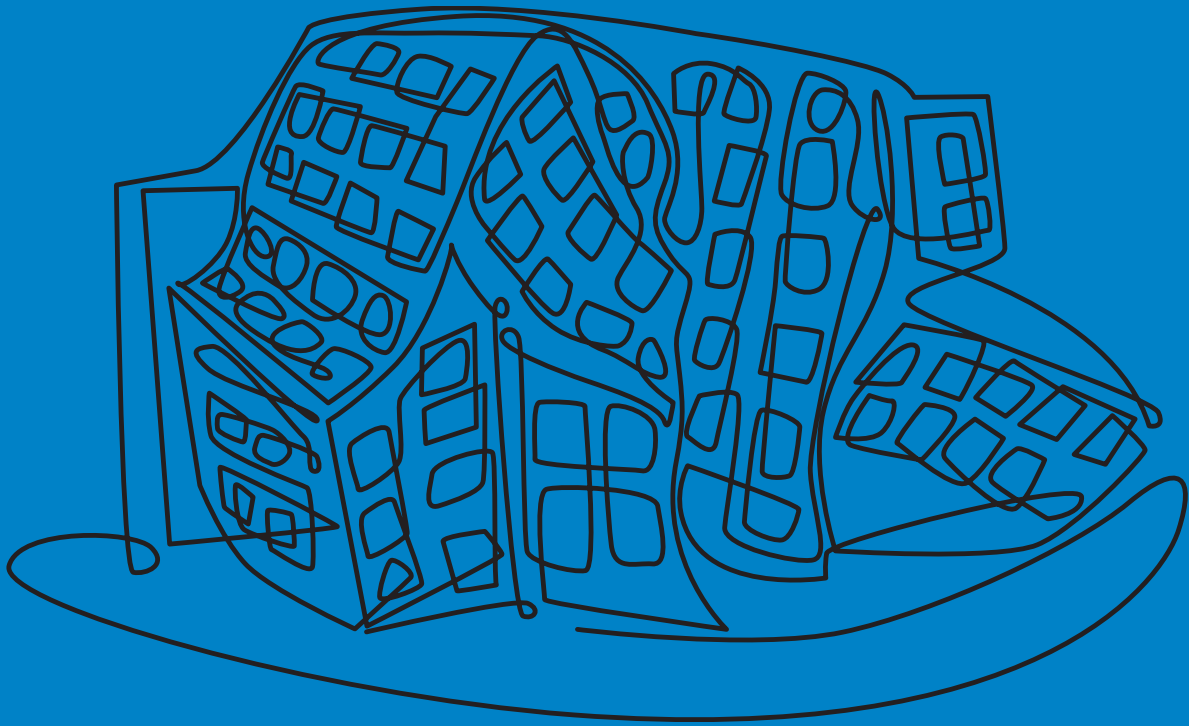
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### FOR MORE INFORMATION

[keepmemoryalive.org/pol](http://keepmemoryalive.org/pol) • 702.263.9797

[PowerOfLove@keepmemoryalive.org](mailto:PowerOfLove@keepmemoryalive.org)

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



**What happens in Vegas  
will benefit the rest  
of the world.**



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

In partnership with Keep Memory Alive.  
Learn more. [clevelandclinic.org/brainhealth](https://clevelandclinic.org/brainhealth)



# Dr. Marwan Sabbagh to Become Center Director

Marwan N. Sabbagh, MD, a leading Alzheimer's disease investigator, has been named Director of Cleveland Clinic Lou Ruvo Center for Brain Health. Dr. Sabbagh will join the center in May, succeeding Jeffrey L. Cummings, MD, ScD, who has guided the center since 2010, and will hold the title of Founding Director while continuing in an advisory capacity.

Dr. Sabbagh served most recently as Director of the Alzheimer's Disease and Memory Disorders division at Barrow Neurological Institute at Dignity Health St. Joseph's Hospital and Medical Center in Phoenix, where he held the Karsten Solheim Chair for Dementia.

"Dr. Sabbagh is an outstanding choice for our center's next chapter," says Keep Memory Alive Chairman & Founder Larry Ruvo. "He is an eminent clinician, researcher and author, with an emphasis on proactive steps that young people can take toward brain health. Of course he has big shoes to fill in succeeding Dr. Cummings, but approaches brain health with a similar philosophy."

At the Lou Ruvo Center for Brain Health, Dr. Sabbagh will oversee sites in Las Vegas and Florida and at Cleveland Clinic's main campus in Cleveland. He will work closely with Dr. Cummings to improve the lives of patients and caregivers affected by dementia and pursue translational research aimed at identifying new treatment options.

"I am very excited at the opportunity to lead this outstanding, rapidly growing center," says Dr. Sabbagh. "With the passion and dedication of the Ruvos and the excellent programs built by Dr. Cummings, employees and staff, there are few neurological centers in America that rival the impact, scope and reach of the Lou Ruvo Center for Brain Health."

Dr. Sabbagh received his residency training in neurology at Baylor College of Medicine in Houston and completed his fellowship in geriatric neurology and dementia under two renowned Alzheimer's disease experts: the late Leon Thal, MD, and the late Robert Katzman, MD, at the University of California, San Diego, School of Medicine. Dr. Thal worked closely with Larry Ruvo in creating the Lou Ruvo Center for Brain Health and this history creates a remarkable connection among Dr. Thal, Dr. Sabbagh and the center.

Dr. Sabbagh has authored more than 300 medical and scientific articles on Alzheimer's disease research and has four books to his credit, including "The Alzheimer's Answer: Reduce Your Risk and Keep Your Brain Healthy," with a foreword by retired Supreme Court Justice Sandra Day O'Connor.

**To schedule a medical appointment with Dr. Sabbagh, call 702.483.6000.**



## A DOCTOR'S HOMECOMING

"Joining the Lou Ruvo Center for Brain Health is a homecoming of sorts for me. I trained under Dr. Leon Thal, who delivered Lou Ruvo's Alzheimer's diagnosis and managed his care. Now, I have an opportunity to serve Nevadans and all who benefit from Camille and Larry Ruvo's philanthropic vision for the center that bears Lou's name."

– Marwan N. Sabbagh, MD



# Building a Centers of Care Network: A New Approach to PSP

## What Is PSP?

Progressive supranuclear palsy (PSP) is the second most common form of parkinsonism after Parkinson's disease and can be mistaken for Parkinson's disease because both disorders cause stiffness and slowness of movement.

Unlike Parkinson's disease, PSP is characterized by early falls (within the first few years of onset of the disorder) and impairment of eye movements (inability to look up or down). Ultimately, PSP progresses more rapidly than Parkinson's and does not respond as well to the medications.

Both PSP and Alzheimer's disease are due to buildup of a protein in the brain called tau. Recent research efforts to find a cure for PSP have intensified because developments could translate to Alzheimer's research as well, says Brent Bluett, DO, a movement disorders specialist at Cleveland Clinic Lou Ruvo Center for Brain Health.

## Creating a CurePSP Center of Care

Centers of excellence have been established nationwide for other diseases to increase awareness and make expert diagnosis and care more readily available. Recognizing a need to create centers of excellence for PSP, Dr. Bluett recently worked with the nonprofit organization CurePSP to draft the eligibility criteria and guidelines an institution must follow to earn the "CurePSP Center of Care" designation.

"Our goal is to improve care and treatment options for those afflicted with



**Movement disorder specialist, Brent Bluett, DO, is passionate about PSP research**

PSP," Dr. Bluett says. "Earlier diagnosis and management improves the chances of finding a cure and increasing one's quality of life."

Only five CurePSP Centers of Care have been designated so far, including Cleveland Clinic's main campus in Cleveland and the Lou Ruvo Center for Brain Health in Las Vegas. The goal is to establish CurePSP Centers of Care throughout the United States and, eventually, in other countries as well.

Dr. Bluett has been passionate about PSP since his fellowship training at the University of California, San Diego. While there, he studied under

renowned movement disorders specialist Irene Litvan, MD, who developed the initial criteria for clinical diagnosis of this disorder.

As with Parkinson's and Alzheimer's, there is currently no cure for PSP. However, a multidisciplinary approach can help alleviate many of the symptoms. Development of the CurePSP Centers of Care network will offer those afflicted with this disorder the treatment and care they deserve.

**To make an appointment with the Lou Ruvo Center for Brain Health movement disorders team, call 702.483.6000.**



# Reacquaint With Ruvo: A Resource Refresher From Our Voice of the Patient Advisory Council

Patients and families on our Voice of the Patient Advisory Council (VPAC) tell us that learning of and living with a diagnosis of a brain disorder is so overwhelming, it's "hard to know where to start." They suggested we start an orientation that would be available not only to new patients, but to those who might need a refresher on how to access the myriad and growing resources available here at Cleveland Clinic Lou Ruvo Center for Brain Health.

Thus was born "Reacquaint With Ruvo: A Resource Refresher for Patients, Families, Friends and Caregivers," a program that debuted last October, and will be presented every few months going forward as well as archived on the Web for convenient at-home viewing.

## It's All About Access

At the debut, attendees heard directly from the Lou Ruvo Center for Brain Health's care team on how to maximize access to resources available through the center, including:

- Communicating with the medical team between appointments
- Understanding how to tap into free resources at our center and in the community
- Learning that we're here for families as symptoms and resource needs change
- Receiving "how-to" information to take home (and advice on when and how to ask for more)
- Hearing about opportunities to gain access to new treatments by participating in research studies

The most popular session was a first-person account from a family caregiver on how support groups helped him cope with his wife's Alzheimer's disease.



Dylan Wint, MD, listens in with our VPAC group discussion

Since establishing our VPAC in 2015, the Lou Ruvo Center for Brain Health can point to myriad tangible reminders of enhanced patient service resulting from this group's input, including patient education materials, changes in our campus environment, and new methods for communicating with patients and families — with "Reacquaint With Ruvo" being but one example.



**Reacquaint With Ruvo will be held again on Wednesday, March 7. Please register at [keepmemoryalive.org/RWR318](http://keepmemoryalive.org/RWR318) or 702.483.6033**

## WHAT IS THE VPAC?

The Voice of the Patient Advisory Council (VPAC) is a forum where we listen to the direct voice of the patient or family member who receives care at our center. To coin a phrase, it is patient-centricity in action.

We're currently recruiting patients and family members to join the group in summer 2018. We seek passionate, engaged individuals spanning an array of relationships to diseases treated and services available at our center. The VPAC meets monthly for an hour and a half and engages in small homework projects in preparation for each meeting. The group's goal is improving the patient experience for all — not just for its members.

If you're interested in being considered for voluntary participation, please contact Nicole Wolf, Director of Marketing and Communication, at [wolfn@ccf.org](mailto:wolfn@ccf.org) or speak with your Lou Ruvo Center for Brain Health provider about joining and guiding us.

# Want to Stay Sharp All Your Life? Start Young

For most people in their 20s and 30s, dementia prevention is unlikely to be a priority. At this stage, people are establishing themselves in life: building careers, forming families, buying houses. This population tends to be healthy, too — healthier than at any subsequent point in life.

So why should young people care about brain health, especially when age is the dominant risk factor for Alzheimer’s disease and other dementias?

“We can’t turn back time, but other dementia risks are modifiable,” says Jeffrey Cummings, MD, ScD, Director of Cleveland Clinic Lou Ruvo Center for Brain Health. “If younger people adopt healthy lifestyles early, these behaviors may become ingrained for the rest of their lives, potentially exerting a protective effect as they age. That’s critical

because we know that with cognitive disorders, the disease process starts many years before symptoms develop.”

## Get Smart

In July 2017, the Lancet Commission on Dementia Prevention, Intervention and Care published an online study consolidating current knowledge on this wide-ranging subject ([thelancet.com](http://thelancet.com)). The authors concluded that more than one-third of dementia cases might be preventable.

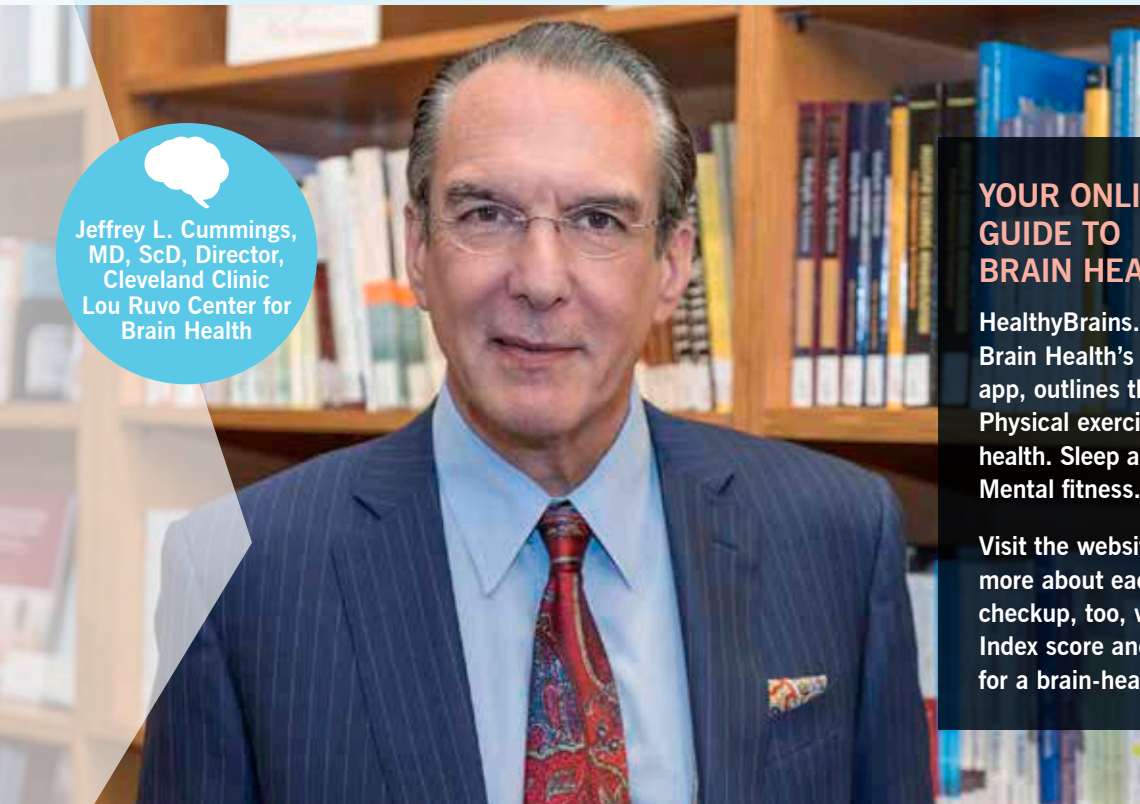
The study stressed the importance of education in early life. It linked education with cognitive reserve, which acts as a buffer against cognitive decline. People with high levels of cognitive reserve can tolerate neuropathologies — even a genetic predisposition to dementia — without developing the disease, or they develop it more slowly.


“Cognitive resilience in later life is likely to be enhanced by building brain reserve earlier in life through education and other intellectual stimulation,” the study found.

## Exercise

Physical activity appears to lower the risk of developing dementia in older people, but why not start sooner? Exercise has health benefits at all ages. It can help mitigate midlife dementia risk factors such as obesity and hypertension, so hit the ground running before you reach age 45!

You’ll find other beneficial strategies at [HealthyBrains.org](http://HealthyBrains.org) (see sidebar). They won’t keep you young forever but, followed from youth, they may help you maintain a healthier body and mind as you age.



  
**Jeffrey L. Cummings, MD, ScD, Director, Cleveland Clinic Lou Ruvo Center for Brain Health**



**YOUR ONLINE GUIDE TO BRAIN HEALTH**

HealthyBrains.org, the Lou Ruvo Center for Brain Health’s interactive website and mobile app, outlines the Six Pillars of Brain Health: Physical exercise. Nutritious diet. Medical health. Sleep and relaxation. Social interaction. Mental fitness.

Visit the website, [HealthyBrains.org](http://HealthyBrains.org), to learn more about each component. Get a free brain checkup, too, with your personal Brain Health Index score and customized recommendations for a brain-healthy lifestyle.



# Drug Pipeline Report Creates Buzz With Sobering News

In June, Cleveland Clinic Lou Ruvo Center for Brain Health released its annual analysis, "Alzheimer's Disease Drug Development: Pipeline 2017," in the journal *Alzheimer's & Dementia: Translational Research & Clinical Trials Interventions*. However, it wasn't until the Nov. 1-3 Clinical Trials on Alzheimer's Disease Conference in Boston that the center realized the impact the study was having on the international Alzheimer's disease (AD) research community.

"Our center director, Dr. Jeffrey Cummings, was the paper's lead author and there's no question that the Pipeline Paper had a major impact on the conference," says Aaron Ritter, MD, Director of

Clinical Trials at the Lou Ruvo Center for Brain Health. "The paper was referenced repeatedly in the keynote address and became a theme for the conference."

That's no surprise because the study, based on the federal website ClinicalTrials.gov, reveals an urgent need to increase the number of drugs, or agents, entering the AD pipeline to accelerate the drug testing and approval process.

## "Jeff's Wheel of Fortune"

At the conference, Dr. Ritter and the center's pharmacist, Garam Lee, PharmD, RPh, presented a poster that featured a graphic of the 105 potential agents currently in the pipeline (see below).

## HELP OUR SCIENTISTS

The largest impediment to developing new drugs for Alzheimer's disease is slow recruitment of participants to clinical trials. You can help.



We're currently seeking both cognitively normal and impaired participants. Call 855.LOU.RUVO to speak with a research coordinator and see if any of the Lou Ruvo Center for Brain Health's trials is a match for you. A full list of trials is at [clevelandclinic.org/BrainHealthTrials](http://clevelandclinic.org/BrainHealthTrials).

"People started calling it 'Jeff's Wheel of Fortune' after Dr. Cummings," says Ms. Lee, who has been involved in data collection and analysis for the study. "They really loved pointing out their company's agent on the diagram, and appreciated being able to look at the whole pipeline in one image."

While promising agents are in development and could be approved, it is evident that, given the 99.6 percent drug failure rate, the aim to have a supply of drugs that can adequately respond to the AD epidemic by 2025 is uncertain.

"We learned that we need about 54,000 participants to complete the current clinical trials but even here at the Lou Ruvo Center for Brain Health, which is one of the largest Alzheimer's clinical trials programs in the country, recruitment continues to be a challenge," says Dr. Ritter.

The Alzheimer's disease pipeline is small, with only 105 agents. Compared with the 2016 pipeline, there are only eight new agents in Phase I, illustrating a desperately slow period in AD drug development.

### Subject Characteristics (Shape)

- △ Healthy Volunteers
- ▽ Preclinical
- Prodromal/ Prodromal - Mild
- Mild - Moderate
- ◇ Severe

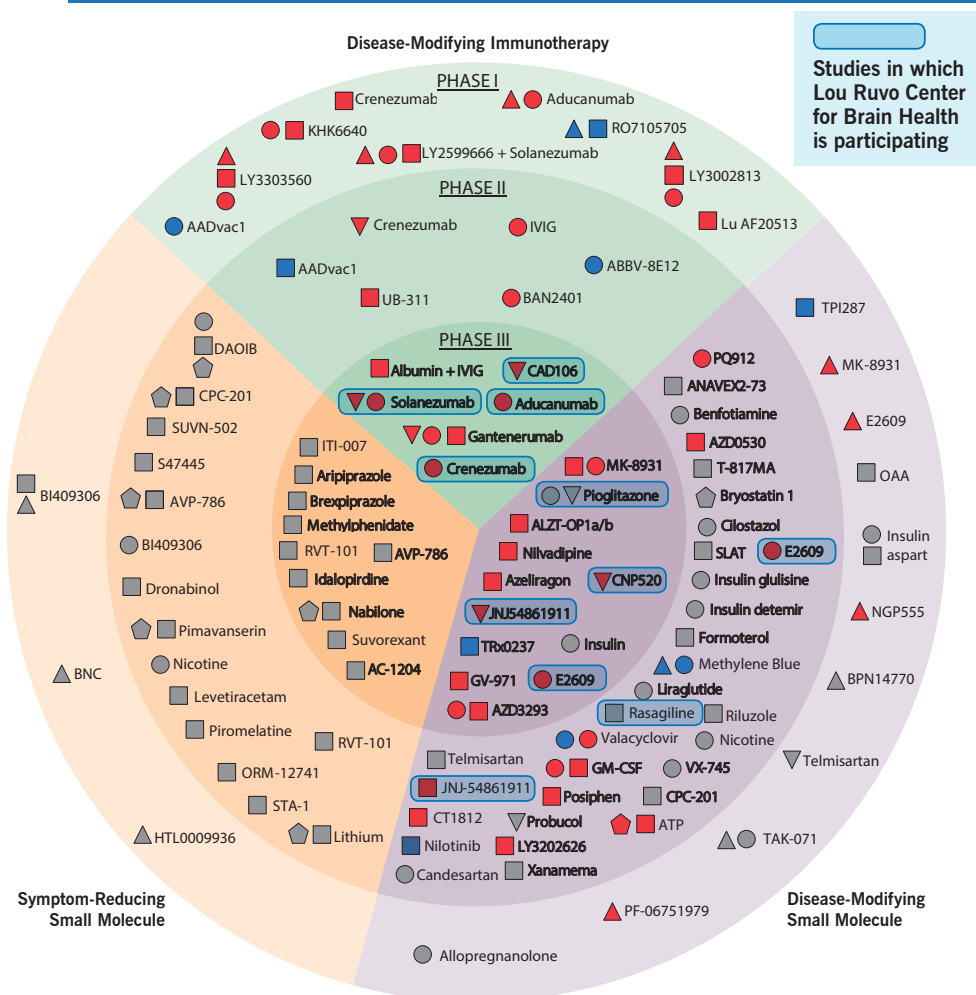
### Mechanism of Action (Color)

- Amyloid-related
- Tau-related
- Others

### Undisclosed Mechanism

- △ RGN1016 (Phase I)
- BAC (Phase II)

## 2017 Alzheimer's Drug Development Pipeline



# Can We Prevent or Delay Dementia?

## Study Seeks to Find Out

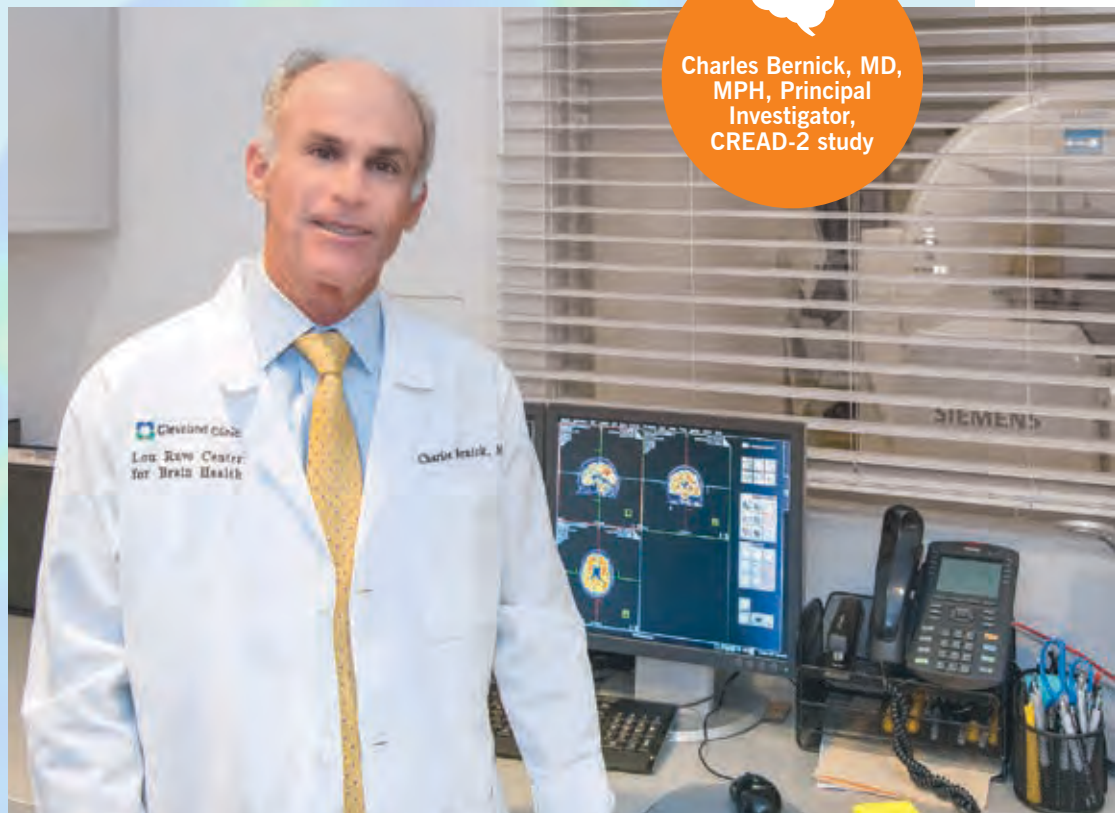
If you've become more absent minded with age, that's not unusual. Everyone forgets a name now and then. But if you're increasingly forgetting appointments, finding it tougher to make decisions or perform tasks, or feeling anxious and irritable, you may have mild cognitive impairment (MCI), which can progress to Alzheimer's disease dementia.

On imaging scans, the brains of people with cognitive impairment often exhibit proteins known as amyloid plaque, which are considered a hallmark of Alzheimer's disease. Would it make a difference if we could remove amyloid plaque early — *before* patients developed Alzheimer's disease? That's what researchers hope to achieve in a clinical trial of the drug crenezumab.

### Fighting to Forestall Decline

"We're trying to keep people from progressing to dementia and being unable to function independently," says Charles Bernick, MD, MPH, Associate Medical Director of Cleveland Clinic Lou Ruvo Center for Brain Health and Principal Investigator for CREAD-2, a multicenter Phase III study of the safety and effectiveness of crenezumab.

For CREAD-2, the Lou Ruvo Center for Brain Health seeks to enroll people aged 50 to 85 who have MCI. Volunteers will be randomized into two groups that will receive intravenous infusions of either crenezumab or a placebo every four weeks for 100 weeks. At both the beginning and end of the study,



Charles Bernick, MD, MPH, Principal Investigator, CREAD-2 study

participants will have positive emission tomography (PET) scans, first to confirm the presence of amyloid plaque and later to determine whether it has decreased in those receiving crenezumab.

CREAD-2 builds on promising results of CREAD-1, led nationally by Lou Ruvo Center for Brain Health Director Jeffrey Cummings, MD, ScD.

If the therapy shows promise, as it did in earlier studies, then all CREAD-2 participants will have the option of taking crenezumab once the study concludes.

Even if crenezumab effectively breaks up plaque, there's no guarantee that patients will never progress to Alzheimer's disease. We still have much to learn, but "we have reached the point where we hope to prevent or delay dementia," says Dr. Bernick. "This is where the field is moving."

**If you're interested in participating in CREAD-2, call 855.LOU.RUVO or email [healthybrains@ccf.org](mailto:healthybrains@ccf.org).**



# Before It's Too Late: Study Seeks People at High Genetic Risk for Alzheimer's Disease

There's a chance you're genetically predisposed to Alzheimer's disease, but how would you know? You could volunteer for the Generation Study, a multicenter clinical trial for which Cleveland Clinic Lou Ruvo Center for Brain Health is recruiting participants.

"This study represents one of the biggest partnerships in history among the National Institutes of Health, academic researchers and the pharmaceutical industry," says Principal Investigator Aaron Ritter, MD, a neuropsychiatrist and Director of Clinical Trials for the center. "When the NIH decides to commit \$40 million to a drug development program, the science is very promising."

## The Importance of Genetics

To qualify for the randomized, double-blind, placebo-controlled study, you must be 60 to 75 years old, with normal thinking and memory abilities. Volunteers will first undergo screening to determine their genetic risk for Alzheimer's disease. A simple cheek swab will tell the tale (*see sidebar*).

"We're identifying people by their genetics because it's possible we are reaching them too late in the disease course," Dr. Ritter explains. "The damage from Alzheimer's disease starts at least 10 to 15 years before symptoms appear, but it's hard to identify high-risk people with no symptoms."

After the screening, a cohort of volunteers will be invited to participate in the Generation Study. These participants will learn their genetic screening results. Scientists are especially interested in recruiting people with a particular gene: APOE4.



## All About Alleles

If each biological parent gave you the APOE4 allele, your risk of developing Alzheimer's disease by age 85 ranges from 60 percent to 90 percent, says Dr. Ritter. Less than 5 percent of the population carries two APOE4 alleles.

Generation Study participants will receive one of two investigational medications or a placebo. The medications — one in pill form, one injected — will be tested to see if they delay or prevent the onset of disease symptoms. Over five to seven years, participants will return for regular medical appointments and imaging, which will show whether the amyloid plaque characteristic of Alzheimer's disease is present in their brains.

**To learn more about the Generation Study, call 855.LOU.RUVO or email [healthybrains@ccf.org](mailto:healthybrains@ccf.org).**

## SWABBING FOR SCIENCE

Cleveland Clinic Lou Ruvo Center for Brain Health hosts periodic events where guests swab a cheek to collect a sample that reveals their genetic profile. Guests send the sample to GeneMatch, a national registry that connects eligible volunteers with Alzheimer's disease prevention studies. To date, some 800 Nevadans have enrolled in GeneMatch.

You can join GeneMatch if you're between 55 and 75 and you haven't been diagnosed with cognitive impairment. To learn about upcoming swab events at the Lou Ruvo Center for Brain Health, go to [HealthyBrains.org](http://HealthyBrains.org).



# Fighters Study Progresses in Identifying Brain Trauma Indicators

A major focus of research on contact sports and head trauma is finding ways to detect brain injury at an early stage and monitor its progression. Cleveland Clinic Lou Ruvo Center for Brain Health's Professional Fighters Brain Health Study has revealed new findings that take a step toward achieving this goal.

Researchers found elevated blood levels of two brain proteins — neurofilament light chain (NfL) and tau — in fighters exposed to repetitive head impacts.

“Higher levels of both proteins may be associated with repetitive head trauma,” says Charles Bernick, MD, MPH, Associate Medical Director of the Lou Ruvo Center for Brain Health and principal investigator for the study, who presented the findings at the American Academy of Neurology's Sports Concussion Conference in July. “These findings set the stage for research on how these proteins may be used to monitor traumatic brain injury (TBI) and its consequences over time.”

## Provocative Findings

NfL and tau are components of nerve fibers that are detectable in blood when the fibers are injured. While both proteins have been viewed as potential markers of acute brain cell injury, less was known about their relationship to chronic mild TBI, explains Dr. Bernick.

To learn more about the proteins and TBI, Dr. Bernick and colleagues evaluated a subset of more than 400 active and retired professional fighters (boxers and mixed martial arts combatants) and non-fighters who are participants in the Professional Fighters Brain Health Study. For up to five years, researchers obtained blood samples from participants, who also had magnetic resonance imaging (MRI) scans and computerized cognitive testing annually.



Charles Bernick, MD, MPH, is Principal Investigator for the Pro Fighters Brain Health Study

Key findings of the study included the following:

- Levels of both NfL and tau were significantly higher in active fighters compared with retired fighters and non-fighters.
- Concentrations of NfL (but not of tau) were correlated with how much sparring participants had done shortly before their blood sample was taken.
- Active fighters showed a significant increase in tau levels over time, which was associated with a decrease in the size of the hippocampus region of the brain. NfL levels did not increase significantly over time in active fighters.

The blood measures are performed by investigators in Sweden, part of a growing network of researchers collaborating with the Lou Ruvo Center for Brain Health.

Further research is needed to find out “whether increasing levels of tau over time indicate a risk of long-term neurological decline,” Dr. Bernick says. “Measurement of these brain proteins might one day help us detect brain injury early, predict who will develop complications and better monitor brain injury over time.”





# Federal Grant Supports Study to Improve Understanding of Disabling Parkinson's Symptom

At 53, Yvonne Dawkins of Las Vegas was younger than the average age of onset for Parkinson's disease and in the two years since her diagnosis, her symptoms have progressed. But rather than sit idle and hope for medical breakthroughs to help her, the former nurse and mother of three is doing what she can to make them happen.

"I want to give back and do my part in finding a cure," she says. That's why she agreed without hesitation when Brent Bluett, DO, a movement disorders specialist at Cleveland Clinic Lou Ruvo Center for Brain Health, asked her to participate in a study on freezing of gait, a common aspect of Parkinson's disease that can lead to falls. There are few effective treatments.

The study, for which Dr. Bluett is the principal investigator, is being conducted through southern Nevada's first Center of



Biomedical Research Excellence (COBRE). The center is funded through a five-year, \$11.1 million federal grant that supports research projects of the Lou Ruvo Center for Brain Health and the University of Nevada, Las Vegas.

## Impeded Motion

Freezing of gait (FOG) is an "under recognized and very disabling phenomenon in Parkinson's disease," Dr. Bluett says. It occurs as patients are starting to walk, trying to turn while walking, going through a narrow passage, or nearing their destination. Patients experience a feeling of being unable to move, or of their feet being glued to the floor. Ms. Dawkins experiences it when she is standing and cooking or washing dishes. She also finds it difficult sometimes to initiate getting out of a car.

The FOG study utilizes functional magnetic resonance imaging and virtual reality to simulate scenarios that commonly cause FOG with the goal of

identifying the parts of the brain that are activated — and by what — when freezing occurs. Study participants are also assessed through structural imaging, neuropsychological testing and clinical evaluation for a baseline and then reassessed annually for five years.

Dr. Bluett says the presumed theory is that there is a disconnect between the parts of the brain responsible for thought and the parts responsible for movement. He hopes to better understand what causes this disconnect and how it can be treated.

**If you would like to learn more about the FOG study, contact [855.LOU.RUVO](tel:855.LOU.RUVO) or [healthybrains@ccf.org](mailto:healthybrains@ccf.org).**

*Research reported in this publication was supported by an Institutional Development Award (IDeA) from the National Institute of General Medical Sciences of the National Institutes of Health under grant number P20GM109025.*



Brent Bluett, DO



# SPRING INTO HEALTH 'FARE' SENIOR HEALTH EXPO

WEDNESDAY, MARCH 21  
10 A.M. – 2 P.M.

Take control of your health and improve your quality of life.

- Interact with medical professionals from Cleveland Clinic Lou Ruvo Center for Brain Health and throughout the Las Vegas community.
- Enjoy cooking and exercise demonstrations. Get a free dental screening, nutritional analysis, vaccination, and much more.

Registration and information on this free event is available at [keepmemoryalive.org/Spring18](http://keepmemoryalive.org/Spring18) or 702.778.6702

## Lynne Ruffin-Smith Library

Enjoy the guidance of our librarian as you peruse more than 1,500 books, DVDs and pamphlets.

Monday – Friday  
8:30 a.m. – 4:30 p.m.

[LouRuvoLibrary@ccf.org](mailto:LouRuvoLibrary@ccf.org)  
702.483.6033

Or browse at your convenience from home, 24/7, via our e-Library:  
[keepmemoryalive.org/library](http://keepmemoryalive.org/library)





# A Look Inside the Team That Looks Inside Brains

In just two years, Cleveland Clinic Lou Ruvo Center for Brain Health's brain imaging research Program has amassed an impressive number of accomplishments (see sidebar). Led by Dietmar Cordes, PhD, a medical physicist, the six-member team uses the center's advanced, superior-contrast magnetic resonance imaging (MRI) scanner to deepen understanding of neurodegenerative diseases and identify biomarkers — or indicators of disease — to measure the efficacy of drug treatments.

Not only have team members made innumerable novel contributions to analyze various research MR images such as functional MRI (fMRI) and structural MRI, they also continue to expand their research and analysis techniques for improved patient care. Specifically, the team has developed new techniques to predict individuals vulnerable to cognitive decline due to repetitive head trauma, understand brain changes in multiple sclerosis,

and identify imaging biomarkers of cognition in Parkinson's disease.

"We are always working on new techniques for analyzing MRIs, with the goal of helping our clinicians provide the most effective care," says Virendra Mishra, PhD, Project Staff at the Lou Ruvo Center for Brain Health.

## MEET RESEARCH ENGINEER ZHENGSHI YANG

A native of Wuhan, a city of 13 million people in central China, Zhengshi Yang, MS, attended Huazhong University of Science and Technology to pursue a degree in science. "The professors were so enthusiastic, it confirmed my interest in becoming a scientist," says Mr. Yang.

After graduating in 2013 with a degree in physics, Mr. Yang came to the United States to enter the doctoral program in physics at the University of Kentucky. From a young age, he was fascinated by American culture and technology: "I was curious about what makes this country so creative and productive."

Mr. Yang's doctoral studies included MRI programming, which led him to accept a position as a research engineer in 2015 at the Lou Ruvo Center for Brain Health.

"I am proud to work on research that helps clinicians provide better care for our patients," he says. He also appreciates the opportunities for



Zhengshi Yang, MS, uses innovative techniques to help better interpret MRIs

close collaboration and learning with colleagues: "I talk frequently with neurologists and psychologists who help me understand the workings of the brain."

His current projects include developing a system for interactively analyzing multiple images from various imaging modalities to help clinicians better evaluate early-stage patients. He is using deep learning — a machine learning technique mimicking the information processing of neurons in humans — to better interpret memory tests performed by patients while they undergo functional MRI.



Mishra



Zhuang

## Brain Imaging Research Team Accomplishments: In only two years...

- 100 conference presentations
- 8 peer-reviewed articles in major publications
- 5 peer-reviewed articles currently under review
- 5 research awards:
  - Oldendorf Award from the American Society of Neuroimaging — *Virendra Mishra, PhD*
  - Keep Memory Alive Scholar — *Virendra Mishra, PhD, and Xiaowei Zhuang, MS*
  - International Society for Magnetic Resonance in Medicine *Summa Cum Laude and Magna Cum Laude* awards — *Virendra Mishra, PhD, and Xiaowei Zhuang, MS*

# Trial Compares Standard and Potentially Riskier Approaches to MS Treatment

What is the best approach to treating multiple sclerosis (MS) with disease-modifying therapy? Cleveland Clinic Lou Ruvo Center for Brain Health is part of an international clinical trial that seeks to answer this very important question. The outcome could have a major impact on the health of the 2.5 million people worldwide affected by the disease.

Two approaches are currently used to treat the relapsing-remitting form of MS (RRMS):

1. **Escalation:** The traditional therapeutic approach, which starts treatment with a drug that is safe and moderately effective in controlling MS activity (clinical relapses, new MRI lesions and/or progression of disability), with subsequent escalation to a more potent agent if there is breakthrough disease; or
2. **Early highly effective treatment (EHT):** Initial therapy with a robust drug, including B-cell therapy agents — natalizumab, alemtuzumab,

## DON'T HAVE MS? YOU CAN HELP

The Multiple Sclerosis Performance Test (MSPT) is a new set of iPad applications designed to assess individuals with multiple sclerosis. But, in order to evaluate patients with MS, we also need comparative data from healthy subjects as “normal controls.” Your participation will aid us in creating a nationwide database of information that could help individuals with MS.

To learn more, contact Christin Nance at 702.483.6027 or [neuroresearch2@ccf.org](mailto:neuroresearch2@ccf.org).



rituximab and ocrelizumab — that has the potential for significant side effects

“In the growing MS therapeutic landscape, we need formal studies to address the potential safety risks associated with EHT compared to the standard escalation approach,” says Carrie Hersh, DO, MSc, staff neurologist and Assistant Program Director, Multiple Sclerosis Health and Wellness Initiative at the Lou Ruvo Center for Brain Health.

### Which Way to Go?

Funded by a \$10.6 million grant from the Patient-Centered Outcomes Research Institute (PCORI), DELIVER-MS (Determining the Effectiveness of Early Intensive Versus Escalation Approaches for the Treatment of Relapsing-Remitting MS) is the first trial to compare the two approaches.

Led by Daniel Ontaneda, MD, of Cleveland Clinic’s Mellen Center for Multiple Sclerosis Treatment and Research, the trial aims to determine which approach is better at slowing brain volume loss, or atrophy, which is a significant risk for long-term

physical and cognitive disability. The three-year trial will also measure how well participants with early relapsing-remitting MS function in several areas, including cognition, arm and leg function, and eyesight. Participants will provide their own perspectives on how treatment affects their MS symptoms and quality of life.


Presently, healthcare providers and patients must decide on which treatment approach to use, without clear evidence of which one has better long-term outcomes.

“At the Lou Ruvo Center for Brain Health, we base treatment decisions on the severity of MS disease, the presence of risk factors that predict worse MS disability, pre-existing medical conditions, and the patient’s overall risk tolerance and personal preference,” says Dr. Hersh, who serves on the DELIVER-MS clinical trial steering committee and is leading the study at the center.

**To make an appointment with our MS neurology team, call 702.483.6000. For information on research opportunities, contact 855.LOU.RUVO or [healthbrains@ccf.org](mailto:healthbrains@ccf.org).**





  
Le Hua, MD, neurologist, works with a patient to personalize care

## FELLOWSHIP-TRAINED MS NEUROLOGISTS ARE PIONEERS IN NEVADA

Both Lou Ruvo Center for Brain Health multiple sclerosis neurologists Le Hua, MD, and Carrie Hersh, DO, MSc, joined the center after completing fellowships in MS/neuroimmunology. They are the only fellowship-trained MS neurologists in Nevada. With such recent training and routine exposure to the growing MS field, they are up to date on the latest research and treatments for MS.



Neurologists with specialized training are sometimes more likely to adopt new approaches and technologies than are general neurologists, “who may not have the same comfort level or exposure to new approaches, depending on their training and how active they are in the MS field,” says Dr. Hersh.

### Data Make a Difference

Bringing new technologies and approaches to MS patient care is the focus of another MS initiative — MS PATHS

(Multiple Sclerosis Partners Advancing Technology and Health Solutions) — currently under way at the Lou Ruvo Center for Brain Health, the Mellen Center in Cleveland and numerous leading healthcare institutions worldwide. Funded by Biogen and Siemens Healthcare, MS PATHS collects data on MS patients at routine medical appointments. This information is used to conduct research and improve clinical care.

Central to this data collection effort is the Cleveland Clinic-developed MSPT (Multiple Sclerosis Performance Test), a series of assessments that patients can do using an iPad.

“MS PATHS is a prime example of how the MS field is incorporating cutting-edge diagnostic tools into MS care,” says Dr. Hersh.

With MSPT, “we are capturing a comprehensive battery of information about patients’ health in routine practice that will allow us to optimize our care. At Cleveland Clinic, our mission is to always look for ways to improve healthcare delivery,” says Dr. Hua.

# Wellness: Good Medicine for Multiple Sclerosis

It is well known that exercise, good nutrition and other wellness components are essential to good health. For people with multiple sclerosis (MS), these practices are especially important. Studies have shown that exercise can help manage MS symptoms, reduce complications, improve cognitive function and boost mood. Also, people with MS who exercise and maintain a healthy weight retain a higher level of physical ability over time.

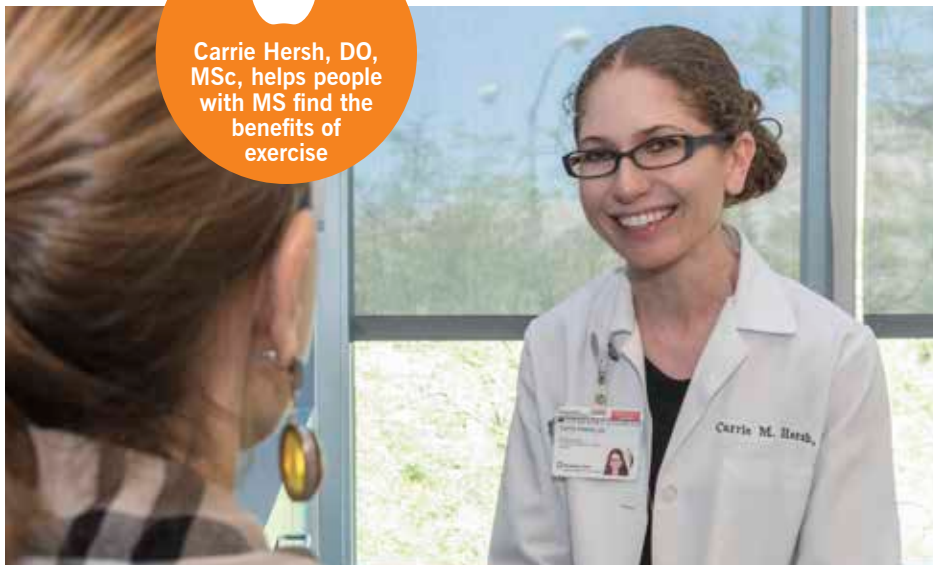
“The complex interplay of MS, other medical conditions and lifestyle choices has significant impact on the overall health of the person living with MS. In this context, high-quality general medical care and healthy lifestyle factors can work synergistically to improve health and quality of life,” says Carrie Hersh, DO, MSc, Cleveland Clinic Lou Ruvo Center for Brain Health Assistant Program Director, MS Wellness.

## A Form of Empowerment

At the Lou Ruvo Center for Brain Health, wellness is an integral part of MS treatment. Since 2016, Dr. Hersh has offered wellness consultations that address nutrition, exercise, the importance of vitamin D supplementation and tobacco cessation, sleep and stress reduction. A variety of complementary approaches, such as yoga, meditation and stress management, is also encouraged.



Carrie Hersh, DO, MSc, helps people with MS find the benefits of exercise



“People with MS who follow a healthier lifestyle have more energy and manage their daily routine with greater ease. Healthy lifestyle practices allow them to feel more empowered despite living with a complex and unpredictable disease,” says Dr. Hersh.

In March 2017, the Lou Ruvo Center for Brain Health introduced a free patient education series, “Health and Wellness in MS,” that attracted 200 people for each of the four sessions. The MS team plans to host another wellness series in 2018.

**To schedule a wellness consultation, call 702.483.6000.**

## LOU RUVO CENTER FOR BRAIN HEALTH 2018 MS WELLNESS SERIES

**Tentatively scheduled for May, this free series, offered in collaboration with the Multiple Sclerosis Association of America (MSAA), includes four sessions on “Health and Wellness in MS.”**

*This program is made possible by a generous grant from Genentech.*

## FINDING TIME FOR FITNESS: TIPS FROM OUR MS PROVIDERS

Members of our MS medical team practice what they preach and incorporate exercise into their busy schedules. Here’s how they do it:



**Carrie Hersh, DO, MSc** — takes long walks and hikes with her husband

**Le Hua, MD** — walks her dog daily, uses her elliptical machine while watching TV and hikes on weekends

**David Oliphant, PA-C** — follows a vegan diet, hikes and rides a bicycle

**Kelli Borgwardt, DNP, ANP-C** — runs and hikes



# No Time to Exercise? Think Again

You've heard it so often, you know beyond a doubt it's true: Physical exercise is good for you. It's good for your body and your mind. Especially as we age, we reap the benefits of regular physical activity. It strengthens your heart; improves your mood; keeps excess weight off; helps maintain healthy bones, muscles and joints; and boosts memory and thinking skills.

But how do you carve an hour out of your hectic day to exercise? We hear that question from patients and caregivers alike at Cleveland Clinic Lou Ruvo Center for Brain Health. For them, lack of time is not an excuse; it's reality. If you're caring for a loved one with dementia, raising a family and holding down a full-time job, you're stretched to the breaking point. Who has time for exercise?

## Just Move It!

You may not be able to go for a three-mile run or head to the gym to lift weights, but you can incorporate more movement into your daily routine. All it takes are a few behavioral changes, says Clinical Rehabilitation Manager Shaina Meyer, OTR/L, MSCS. Here's what Ms. Meyer, an occupational therapist, suggests:

- Do alternate toe and heel raises when brushing your teeth.
- Park as far as you can from store entrances, as long as you feel safe in the lot.
- Walk sideways each time you go to the bathroom. Practice tandem walking — one foot directly in front of the other — when you're moving



Shaina Meyer, OTR/L, has some easy ways to add movement to your day

around the kitchen. Changing it up like that stimulates the brain.

- Sit down and stand up 10 times at the start of your favorite TV show. A tip unrelated to exercise: Take a drink of water during each commercial break.
- If you're fit enough, take the stairs instead of the elevator.

You get the idea. The beauty of simple strategies like these is that they don't demand additional time.

"It makes me so happy when skeptical patients come back and tell me they've adopted some of these ideas in their daily routine," Meyer says. "It's even better when it helps them solve a problem. One gentleman was always bored waiting for his wife, who takes a while to get dressed and out the door. Now he's doing heel raises while watching TV and, before he knows it, she's ready!"

Additional tips for incorporating exercise into your life are online at [HealthyBrains.org](https://HealthyBrains.org).



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*Cleveland Clinic offers same-day appointments.*

 **Cleveland Clinic**  
**Express Care® Online**



# 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. For these patients, a virtual visit may be just what the doctor ordered.

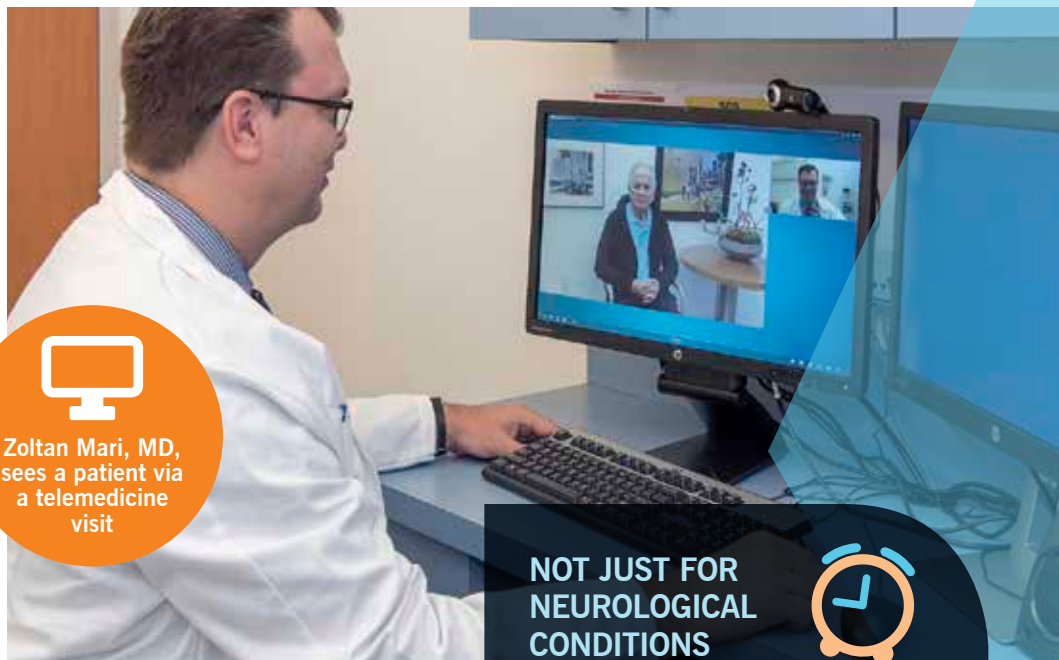
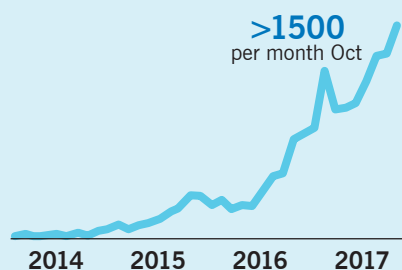
Last year, Cleveland Clinic Lou Ruvo Center for Brain Health began offering Cleveland Clinic Express Care® Online, a service introduced in 2014 by Cleveland Clinic, a leader in telemedicine. It has proved very popular among Cleveland Clinic patients, particularly at the Neurological Institute (of which the Lou Ruvo Center for Brain Health is a part), with virtual visits increasing 600 percent over the past two years (see accompanying chart).

## As Good as Being There

Express Care Online is designed to be easy to use: Patients can access the service from their smartphone, tablet or computer, using a secure system. The Distance Health team helps patients set up the system, which is similar to Skype.

“Express Care Online is a major focus for our organization,” says Nikhyl Jhangiani, MBA, MPH, Program Manager, Distance Health, at Cleveland Clinic. “It helps us provide greater access to healthcare. For many medical conditions, the care is as good as in-person visits, and our patients love it.”

### Express Care Online Visits (On-demand and Scheduled)



Zoltan Mari, MD,  
sees a patient via  
a telemedicine  
visit

Express Care Online is ideal for everyday acute care that may not require an in-person physical exam, such as colds, infections and back pain, but it may also be appropriate for select patients to manage chronic illnesses like Parkinson's disease.

## A Plus for People With Mobility Issues

Zoltan Mari, MD, Director of the Cleveland Clinic Center for Neurorestoration, Nevada, has a strong background in telemedicine. Before coming to the center last year from Johns Hopkins Medicine, he regularly had telemedicine visits with patients from his local practice, as well as throughout the United States and worldwide.

“Most patients were very happy with virtual visits,” says Dr. Mari. “They could discuss their problems and ask questions right at home while their movement disorder was observed through video.”

Dr. Mari has been recommending Express Care Online for routine follow-up visits to Lou Ruvo Center for Brain Health patients whose conditions are

## NOT JUST FOR NEUROLOGICAL CONDITIONS



For individuals who prefer virtual visits to a visit to a primary care physician or urgent care facility, on-demand visits are available 24/7. Users can log into the app at [clevelandclinic.org/eco](http://clevelandclinic.org/eco) and select the physician whose background best suits their current needs.

stable. These virtual visits, which should be scheduled in advance, can save money and time for patients who come to the center from all over Nevada and the Southwest.

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.”

**Information on how to schedule a visit and a link to download the app can be found online at [clevelandclinic.org/eco](http://clevelandclinic.org/eco).**

# Cleveland Clinic Outcomes Data Illustrate Positive Changes

## Keeping Patients Engaged in Life Despite Cognitive Decline

For many patients with neurocognitive impairment, depression is a constant companion, often accompanied by other behavioral disorders such as anxiety and agitation. Among patients with Alzheimer's disease — the most common and most intensively studied form of dementia — some 90 percent develop some type of behavioral disorder and, within this group, 25 to 50 percent suffer from depression.

But new data from research among patients with cognitive impairment at Cleveland Clinic Lou Ruvo Center for Brain Health indicate that depressive symptoms can successfully be treated, thus moderating the impact of one of the major factors that reduces patients' quality of life.

## PUBLISHING OUTCOMES: AN ONGOING COMMITMENT TO TRANSPARENCY

Analyzing and transparently reporting outcomes annually promotes quality improvement and, Cleveland Clinic believes, enhances our culture of patient care.

Cleveland Clinic creates an Outcomes Book for each of its 27 institutes, with a focus on clinical outcomes data as well as new technologies and innovations. Our performance is compared with industry standards considered benchmarks. Cleveland Clinic's outcomes reports go well beyond any required by public health reporting.

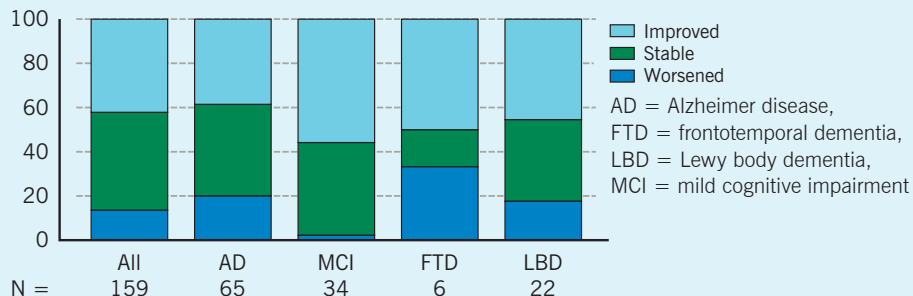
Cleveland Clinic's Outcomes Books are designed primarily for physicians and clinicians, but are publicly available online ([clevelandclinic.org/outcomes](http://clevelandclinic.org/outcomes)).



## Change in Depressive Symptoms in Patients With Cognitive Disorders (N = 159)

2015 – 2016

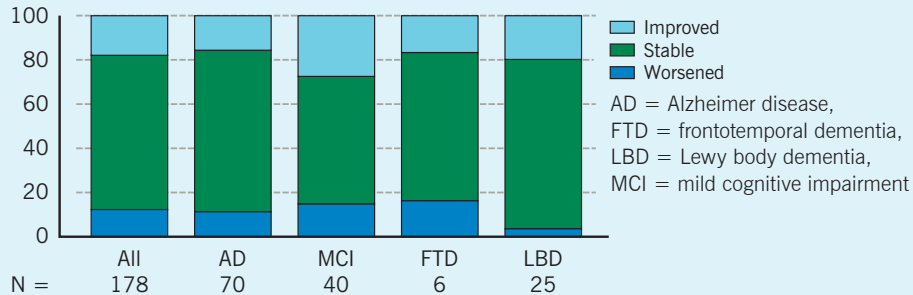
Patients (%)



## Change in Quality of Life (Mental Health) in Patients With Cognitive Disorders (N = 178)

2015 – 2016

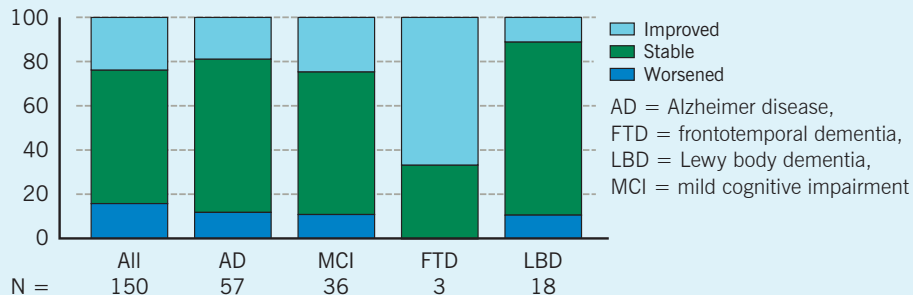
Patients (%)



## Change in Quality of Life (Physical Health) in Patients With Cognitive Disorders (N = 150)

2015 – 2016

Patients (%)





## Positive Patient Outcomes

Data on cognitive disorders in Lou Ruvo Center for Brain Health patients are included in the Neurological Institute Outcomes Book published annually by Cleveland Clinic. To measure changes in depressive symptoms from 2015 to 2016, 159 patients or their caregivers were asked to complete a widely used and validated questionnaire.

The majority of these patients had Alzheimer's disease; the remainder had mild cognitive impairment, frontotemporal dementia or Lewy body dementia. The common thread was that all had at least moderate depressive symptoms.

The year-over-year results were encouraging: Most patients remained stable or showed improvement in their symptoms.

## Mood Matters

To Dylan Wint, MD, NV Energy Chair for Brain Health Education, these findings were not surprising.

"Our neurologists are adept at assessing and managing depressive symptoms," says Dr. Wint, who is board certified in both psychiatry and neurology. "They engage immediately in treatment, rather than waiting for a formal psychiatric evaluation."

Treatment for depression often involves medication, but it also can entail nonpharmacological interventions such as counseling, support groups and physical therapy. For this reason, Dr. Wint credits the contributions of social workers, therapists, rehabilitation specialists and other professionals who work with this population.

"In addition to excellent physical therapists, we have art and music therapists," he says. "More of these services are available to our patients now, and there's greater awareness of their value."

The outcomes research also evaluated quality-of-life indicators such as mental and physical health. Dr. Wint notes that improvements in both seem counterintuitive when dementia is

progressing and patients are declining cognitively. Yet, the data revealed that substantial majorities of patients experienced either stability or improvement year over year in their physical and mental health.

Dr. Wint sees a clear connection between the findings for depression and for physical and mental health.

"Quality of life is strongly affected by behavioral comorbidities like depression," he explains. "When we treat patients with dementia for depression, it's not unusual for their families to report on return visits that the patients' cognition is much better, even though their scores on cognition assessments haven't changed. But their mood has improved, and that has made them more functional."

## CONTROL THE UNCONTROLLABLE

Physical therapist Jason Longhurst likes to say he "treats the brain through the body." Dr. Longhurst, PT, DPT, MSCS, CDP, NCS, is a neurological certified specialist at the Lou Ruvo Center for Brain Health who works to engage patients with cognitive impairment and depression through physical exercise, a recognized route to elevating mood.

Exercise can take many forms, depending on the patient's cognitive level. It may mean aerobic activity, such as a walk or a session on a stationary bicycle. Or it may mean balance challenges such as standing on one foot, which teaches a brain-specific response to solve a problem; in essence, to avoid falling over. Patients with good balance can be coached to apply that ability in practical ways,

such as carrying a laundry basket or placing objects on high shelves.

With depression, engagement is key to lifting mood, Dr. Longhurst says. He remembers a patient with vascular dementia who was depressed and apathetic when she arrived, in stark contrast to a history of social interaction.

"After 15 visits, her cognition score rose a remarkable eight points on a 30-point scale," he recalls. "Once again, she was active, social and involved in her community."

Caregivers usually accompany patients to exercise sessions, and Dr. Longhurst encourages them to engage their loved ones at home: "I tell them to invite the person to go for a walk, and then to pose a question such as, 'Do you remember that time ... ?' It helps them control the uncontrollable."



Physical therapist, Jason Longhurst, PT, DPT, MSCS and patient in a session

# Early Signs May Signal Parkinson's Disease Before Motor Symptoms Develop

Identifying signs of Parkinson's disease (PD) as early as possible has always been a priority for patients and doctors alike. More recently, neurologists have focused on detecting PD even before the first motor symptoms, such as tremor or slowing, appear. Telltale signs before the onset of

PD are referred to as "prodromal." What are these signs and why are they important?

## Loss of smell

One of the commonly recognized prodromal signs is anosmia: loss of the sense of smell. If anosmia develops

without any obvious damage to olfactory structures, it is referred to as "idiopathic" (meaning "without a known cause"). An individual with anosmia not associated with any other condition has at least a 50 percent chance of developing PD later, sometimes many years later.



Zoltan Mari, MD,  
Director, Parkinson's  
and Movement  
Disorder Program



### REM sleep behavior disorder

Another prodromal sign is RBD, or REM behavior disorder. REM, which stands for rapid eye movements, is a particular phase in sleep when we dream and move our eyes. If idiopathic RBD develops, one has at least a 50 percent chance of having PD later.

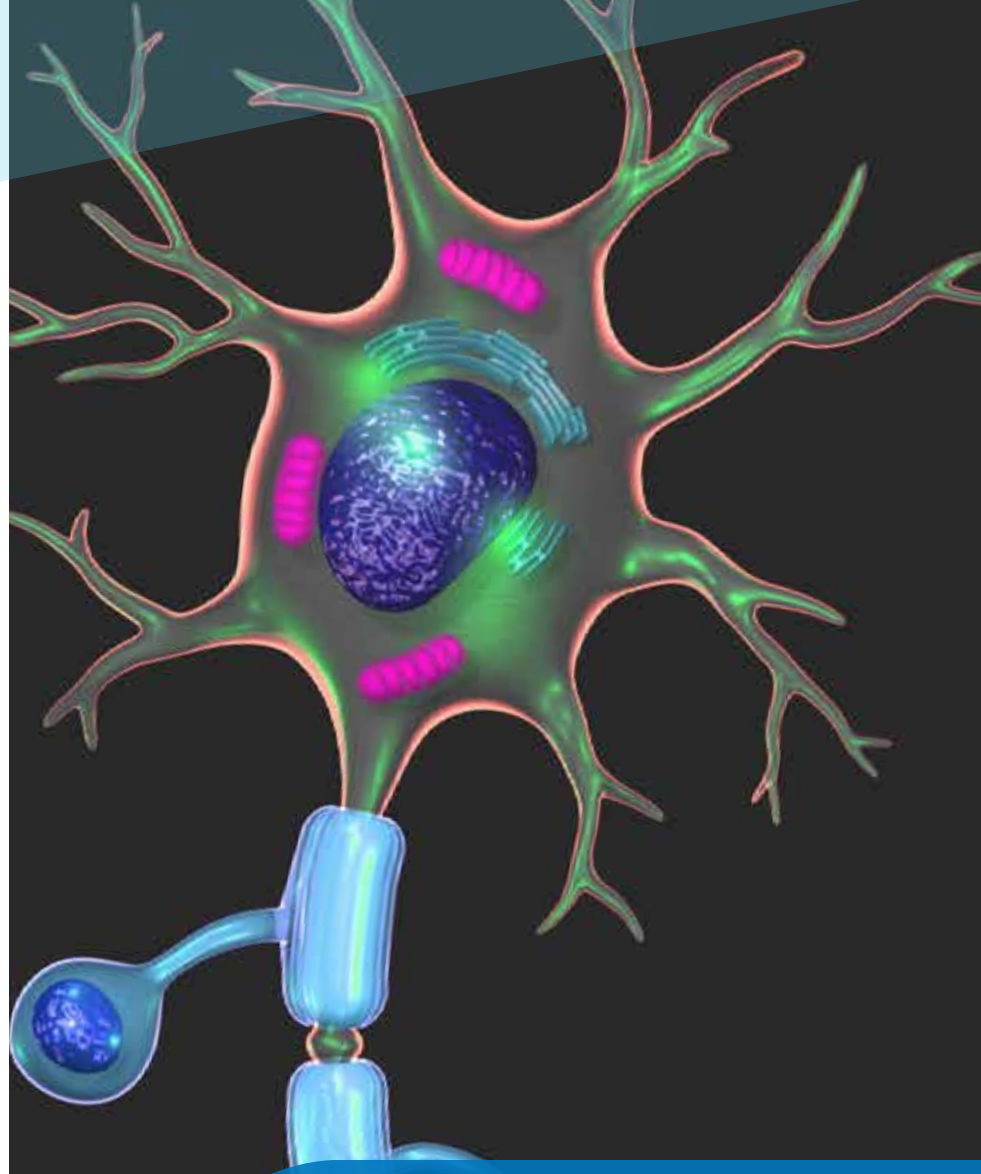
### Constipation

A third well-known prodromal sign of PD is persistent constipation. An estimated 50 percent of those with otherwise unexplained, persistent constipation will develop PD. The specific pathological changes seen in the brains of PD patients may be seen in the nerves inside intestines years before these individuals develop PD, which could explain why they become constipated even before experiencing the well-known motor signs of PD.

### A Quest for Understanding

Of course, many diverse factors besides PD affect smell, sleep and bowel movements, so the correlation is less than perfect, but these prodromal signs are nevertheless very significant. If we understood which 50 percent with these signs will develop PD, we could use that knowledge in preventing the disease. As it is, this prodromal population offers an excellent opportunity to study interventions that aim to prevent PD.

**As we continue our quest to slow, stop or prevent the progression of PD, the study of these prodromal states remains important. To make an appointment with a member of our movement disorders neurology team, call 702.483.6000.**



### ABOUT THE AUTHOR

**Zoltan Mari, MD**  
*Ruvo Family Chair*  
*Director, Cleveland Clinic Center*  
*for Neurorestoration, Nevada*

Dr. Mari graduated first in his medical school class in Hungary and is a member of the Alpha Omega Alpha Medical Honor Society. After fellowship training at the National Institutes of Health, he was promoted to Associate Professor at Johns Hopkins University, where he directed its Parkinson's Disease and Movement Disorder Center and established a Deep Brain Stimulation Center and a clinical fellowship program. He has published 70 peer-reviewed papers.

# Dementia Knows No Bounds: Singer-songwriter Jann Arden to Address Caregivers

First, Jann Arden’s mother was the caregiver for Ms. Arden’s father as Alzheimer’s disease took its toll; then, her mother, too, was stricken with dementia. Ms. Arden, a multi-platinum award-winning Canadian singer-songwriter, didn’t realize how widespread dementia was until a casual posting on her Facebook page yielded more than 1 million impressions and 4,500 comments from fellow caregivers.

“I read them for an hour and bawled,” Ms. Arden told the *Toronto Star*. “I didn’t understand how many people were in the same boat, and what a catastrophe memory loss is.”

Ms. Arden will speak to family caregivers at Cleveland Clinic Lou Ruvo Center for Brain Health at a future date to be determined. Her book, “Feeding My Mother: Comfort and Laughter in the Kitchen as My Mom Lives With Memory Loss,” has topped the Canadian bestseller list for weeks.

“I’m very proud that Jann Arden has accepted our invitation to come and speak to family caregivers,” says Larry Ruvo, who founded the Lou Ruvo Center for Brain Health as a tribute to his father after Lou Ruvo lost his battle with Alzheimer’s disease. “No one knows how hard it is to be a caregiver until they’ve done it themselves. I watched firsthand,



helping where I could, as my mother cared for my father.”

Mr. Ruvo has purchased copies of “Feeding My Mother” to present to attendees at the 2018 Power of Love® gala. He is currently arranging the details of Ms. Arden’s speaking engagement. Stay tuned to the “Upcoming Events” section of [KeepMemoryAlive.org](http://KeepMemoryAlive.org) for more information.

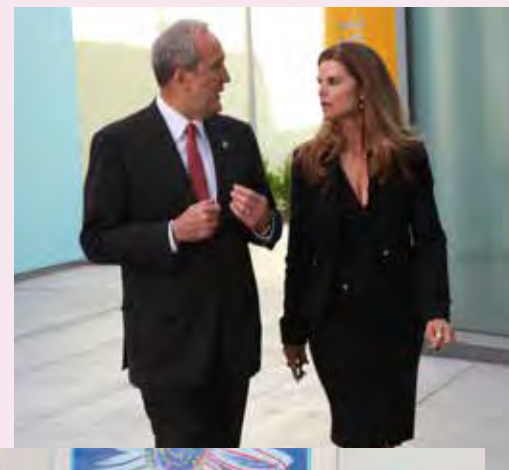
# Grant to Help Expand Sex-based Dementia Research


Congratulations to Sarah Banks, ABPP/CN, Head of Neuropsychology, and Jessica Z.K. Caldwell, PhD, Staff Neuropsychologist. In December 2017, they received a \$100,000 grant from The Women’s Alzheimer’s Movement, a foundation headed by Maria Shriver.

This new grant augments previous support from the same organization to expand Cleveland Clinic Lou Ruvo Center for Brain Health’s research of sex differences in the brain and memory in Alzheimer’s disease. This work will contribute toward our and Ms. Shriver’s foundation’s mutual goal of better understanding why Alzheimer’s disease disproportionately affects women.



Larry Ruvo hosts Maria Shriver during a 2010 visit to the Lou Ruvo Center for Brain Health



  
Sarah Banks, ABPP/CN,  
(left) and Jessica Z.K.  
Caldwell, PhD,  
receive a grant



# When Dementia Strikes, Children Need Your Guidance

Ruth Almén, LCSW, hears the comments and questions from worried caregivers:

*“How do I explain to my daughter why her grandfather can’t recall her name?”*

*“My son is having a really hard time coping with the changes in his grandmother.”*

*“I’m so stressed. My kids keep asking questions, and I don’t know how to answer.”*

The strain of caring for a parent with dementia is compounded if you have children of your own.

“You’ve been grieving off and on ever since the diagnosis,” says Ms. Almén, Clinical Social Work Manager at Cleveland Clinic Lou Ruvo Center for Brain Health. “Your kids are experiencing this with you, but they’re feeling it in their own way.”

## Talk to Them

Some children are visibly upset when the serenity of their home environment is shattered by a grandparent’s cognitive decline. Others hide their concern, striving to appear unaffected, even uncaring.

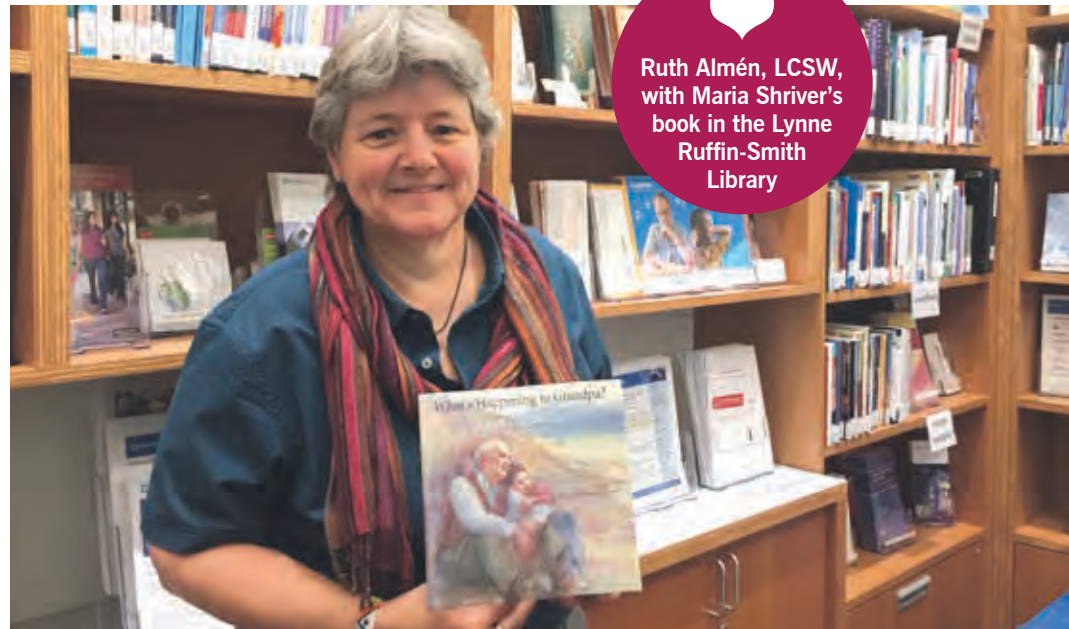
More likely, that façade conceals deep-seated fears. In addition to worrying about the stricken family member, they may feel insecure when they see you, the primary caregiver, distraught and exhausted. It’s natural for them to wonder, what about me?

There’s one imperative, Ms. Almén says: “Find a way to talk to your kids, without breaking down in front of them. It’s tough to have these discussions, but you have to control your emotions when you’re with them.”

## Keep Cool

Ms. Almén has some advice for parents facing this intimate conversation:

**Don’t overburden them.** Kids do well with small, manageable bits of



Ruth Almén, LCSW, with María Shriver’s book in the Lynne Ruffin-Smith Library

information at a time. Once you’ve introduced the subject, let them lead you. One child may need to go off and think about what you’ve said; another may pepper you with questions. Be sure they know they can come back anytime and question you further.

**Admit that you don’t know.** If you don’t have all the answers, say so; they’ll intuitively know it anyway. Feel free to turn to others — medical professionals, school counselors, faith leaders — for help. The Lou Ruvo

Center for Brain Health’s lending library has age-appropriate books, videos and other resources (see sidebar). Screen every video before you let your children watch it.

**Keep them connected.** Kids are less concerned than adults are with an elder’s inappropriate remarks or bizarre behavior. Don’t let dementia sever close intergenerational relationships. A warm squeeze of the grandparent’s hand with a simple “I love you” is powerful assurance of a tie that binds forever.

## FOR MORE INFORMATION

The Lynne Ruffin-Smith Library at Cleveland Clinic Lou Ruvo Center for Brain Health has supportive materials for children confronting a diagnosis of dementia in an older person; typically, a grandparent.

When she counsels families on resource selection, Ruth Almén, Clinical Social Work Manager, asks questions such as: How old are your children? How much do they know about the disease? Do they like to read or watch videos? If the youngsters are present, she asks them about activities they have enjoyed with their grandparents.

The library is open from 8:30 a.m. to 4:30 p.m., Mondays through Fridays. For more information or to schedule a visit, go to [louruvalibrary@ccf.org](mailto:louruvalibrary@ccf.org) or call 702.483.6033.



# Volunteer Equips Caregivers With Tools to Care for Themselves

“Inspire” was Randy Bolsinger’s mantra for 2017.

The Cleveland Clinic Lou Ruvo Center for Brain Health volunteer came upon the concept in the book “One Word That Will Change Your Life,” which advocates choosing a single word to guide and prioritize one’s time and pursuit of goals — an alternative to making the typical checklist of New Year’s resolutions. Mr. Bolsinger has found no shortage of opportunities to inspire.

In February, alongside volunteer Diane Meires, he co-facilitates his seventh session of “Powerful Tools for Caregivers,” a six-week, evidence-based class that teaches lay caregivers how to grant themselves permission to prioritize personal care.

“Participants realize they’re not alone, gain an understanding of what they’re going through as caregivers and the toll it takes, and learn new tools for dealing with their care receiver and others,” Mr. Bolsinger explains.

## It’s OK to Take a Break

One might even say participants are inspired to make a change — just like their instructor, who completes each homework assignment he gives his students. A caregiver to wife Martie



Randy Bolsinger with wife, Martie

for eight years prior to her passing from Alzheimer’s disease in September 2017, Mr. Bolsinger has internalized the importance of taking a break. In August, he rode his Gold Wing motorcycle from Las Vegas to Texas to obtain further certification as a motorcycle safety instructor before continuing on to Youngstown, Ohio, for a high school reunion.

The Bolsingers have a long history of volunteering at the Lou Ruvo Center for Brain Health: Martie participated in two clinical trials for new Alzheimer’s disease drug treatments and Randy has served as a normal control in a brain stimulation research study for Parkinson’s disease. The couple found that volunteering for trials is a terrific way to feel good about contributing, while helping to advance scientific understanding and possible new therapies.


“We both agreed that while participating in research wouldn’t cure Martie, together we could do something positive that might help others in the future,” Mr. Bolsinger says.

## An Inspirational Presence

Today, in addition to his role with “Powerful Tools for Caregivers,” Mr. Bolsinger inspires fellow caregivers through participation in the Lou Ruvo Center for Brain Health’s Voice of the Patient Advisory Council (see page 8) and the heartfelt public testimonials he delivers on subjects many find difficult to speak of: support groups and counseling.

“I’ve met so many great people at the Lou Ruvo Center for Brain Health, from staff to family caregivers,” he says, “I volunteer in hopes of inspiring people and giving them the tools to keep their resolution of taking better care of themselves and their loved ones in this difficult journey.”



  
Randy Bolsinger,  
volunteer at the  
Cleveland Clinic  
Lou Ruvo Center for  
Brain Health

For information on an array of volunteer opportunities at the Lou Ruvo Center for Brain Health, contact Volunteer Services at 702.331.7046 or [mariank@ccf.org](mailto:mariank@ccf.org).



# Meet Adrienne Pan, Behavioral Neurology Fellow

Delivering news about an unanticipated health crisis is challenging and stressful for physician and patient alike in the experience of Adrienne Pan, DO. “But for individuals and families who have observed changes in brain function over time, there is solace in knowing what to expect,” she adds. “A firm diagnosis reduces anxiety.”

As a medical student at Florida's Nova Southeastern University, Dr. Pan observed this phenomenon while participating in a professor's memory clinic in the local community, which inspired her to apply to the neurology residency program at Valley Hospital in Las Vegas. Residents there spend a portion of their training time at Cleveland Clinic Lou Ruvo Center for Brain Health.

As a capstone to their specialty training, 80 percent of neurology residents pursue a subspecialized fellowship. Dr. Pan is completing her one-year fellowship in behavioral neurology at the Lou Ruvo Center for Brain Health, where she sees patients under the supervision of Gabriel Léger, MD, Director of the fellowship in behavioral neurology.

## The Most Comprehensive Care

“Because of their teaching focus, diagnostic and therapeutic discussions between staff physicians and trainees are quite detailed and comprehensive,” Dr. Léger says. “Although the assessment may take more time, the result is that the patient receives more focused care.”

Dr. Pan remembers a family that brought in the father, explaining he had been diagnosed first with dementia, then Parkinson's disease, in the same year. “Lightning usually doesn't strike twice,” she said to herself. “It's likely these diseases are linked.” After an hour-long



**Behavioral  
Neurology Fellow,  
Adrienne Pan, DO, with  
Gabriel Léger, MD**

examination and consultation with Dr. Léger, she was able to inform the family that the patient had Lewy body disease, a condition with symptoms spanning cognitive and movement disorders, thus mimicking the two diagnoses.

“Neurology and psychiatry are interesting because we've learned how to provide more nuanced diagnoses; yet, there remains so much to learn about the brain,” Dr. Pan notes.

## The Fruits of Philanthropy

While completing her own training, Dr. Pan is teaching future medical providers, from lecturing in the physician assistant program at Touro University to mentoring

residents who rotate through the Lou Ruvo Center for Brain Health. As she continues her medical practice in Las Vegas, Dr. Pan hopes to connect deeply with the local medical community, educating primary care providers on methods for streamlining early detection of cognitive decline. In November 2018, she will sit for her board certification in behavioral neurology.

**Fellowships such as Dr. Pan's are made possible through philanthropy. If you're interested in supporting educational opportunities at the Lou Ruvo Center for Brain Health, please contact 702.263.9797 or [DonateNevada@ccf.org](mailto:DonateNevada@ccf.org).**

# E. L. Wiegand Neurorehabilitation Clinic Expands

Since 2011, generous grants from the E. L. Wiegand Foundation have helped Cleveland Clinic Lou Ruvo Center for Brain Health establish and grow a neurorehabilitation program customized to the needs of our patient population: individuals living with cognitive disorders, movement disorders or multiple sclerosis.

Our board-certified physical and occupational therapists rely on cutting-edge technology paired with customized exercises during one-on-one, individualized treatment sessions that incorporate patients' interests and hobbies while increasing their mobility, strength, confidence and independence.

## Better Equipped Than Ever

The most recent grant from the Reno, Nev.-based E. L. Wiegand Foundation, received in 2017, has provided an array of additional rehabilitation equipment, notably:

- **Bioness Integrated Therapy System:** an interactive touchscreen for cognitive, visual, auditory and motor treatments and assessments
- **Motomed with Functional Electrical Stimulation:** a device for active lower-body training for patients with paralysis, designed to increase flexibility in the legs

- **Saebo Rejoyce:** a workstation for building hand coordination, gross motor skills and strength while practicing activities of daily living
- **Standing Frame:** a support frame for safe and easy transfer from sitting to standing, thus helping to improve patients' weight-bearing tolerance
- **Wii and Xbox Kinect Games:** video games for interactive physical therapy
- **Bariatric Walker:** a reinforced walker for our larger patients

"Having leading-edge technology and equipment enables our physical and occupational therapists to fulfill our promise of improving quality of life for patients by building the physical and mental strength, confidence and agility they need to retain independence for as long as possible," says Shaina Meyer, OTR/L, Manager, Neurorehabilitation.

## A Philanthropic Army

The E. L. Wiegand Foundation focuses on ensuring that its grants connect with defined outcomes, which aligns with Cleveland Clinic's own outcomes-based approach (see page 23).



  
Katy Conroy, OTR/L, exercises with a patient in the E. L. Wiegand Neurorehabilitation Clinic

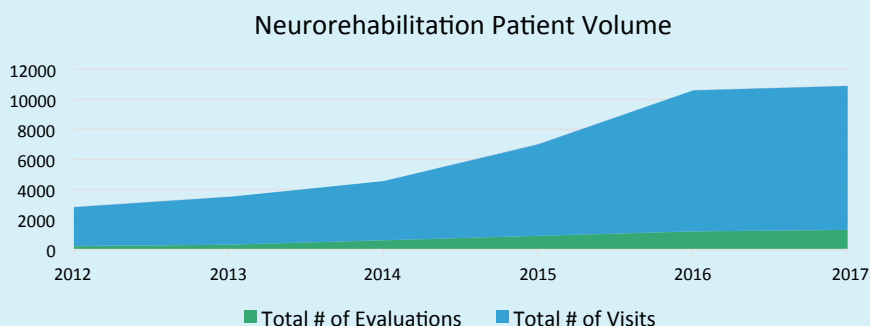
Neurorehabilitation metrics include:

- **Clinical:** These longitudinal measures will show the impact of our unique treatment protocols and care pathways, proving that we are improving patients' physical and cognitive functioning.
- **Quantity of patient participation:** We will continue to track numbers of patients with neurocognitive diseases served, including through newly created programs for specific diseases.

In conjunction with the initial grant in 2011, Kristen Avansino, President and Executive Director of the E. L. Wiegand Foundation, said, "We hope that this grant will have a very long afterlife so that, in our small, humble manner, we can create with you a template that will ignite philanthropy in others and build an army to model these best practices."

**That it has. If you'd like to join the army of philanthropists whose generosity amplifies our science, contact our Development Team at 702.263.9797 or [DonateNevada@ccf.org](mailto:DonateNevada@ccf.org).**

## WATCH US GROW!



The neurorehabilitation program has grown from approximately 2,000 patient visits annually (conducted by three staff members) to more than 10,000 visits annually (conducted by eight staff members), incorporating access to the highest-quality therapy equipment.



# Fighting for Rights, Respect and Resources for People With Dementia

A dementia-friendly community aims to foster a better quality of life for people with dementia and their families by changing the way its citizens think about living with dementia.

Building on groundwork laid in the last two years, the volunteer collaborative known as Dementia Friendly Southern Nevada will canvass businesses and other local organizations in 2018 to raise awareness of ways they can serve and protect their more vulnerable patrons.

## Is Your Business Dementia Friendly?

In 2016, Dementia Friendly Southern Nevada volunteers solicited the viewpoints of care partners of individuals affected by dementia regarding the strengths and weaknesses of area resources.

In 2017, focus groups convened throughout the region to further clarify the needs of patients and families affected by dementia. Repeatedly, participants spoke of the need for greater awareness of the disease in businesses, healthcare settings and public spaces — everywhere and anywhere people visit and congregate.

This year, trained Dementia Friendly Southern Nevada volunteers will visit restaurants, retailers, hairdressers, financial institutions and more to encourage a dementia-friendly business environment and to market this concept so that patient and care partners will know which establishments are most understanding of their needs.

## Education Is Key

In addition, Dementia Friendly Southern Nevada is implementing ways to engage



Members of Dementia Friendly Southern Nevada gather to increase awareness

and educate the public on resources that are available, at low or no cost, to help alleviate the uncertainty and burdens faced by people with cognitive disorders. One goal: to create a simple but comprehensive guide detailing the common, and not so common, issues that individuals with dementia and their caregivers face, and the means to find helpful providers and organizations.

Dementia Friendly Southern Nevada believes that a more fulfilling life for people with dementia, their families and care partners is possible, and that the everyday things can make a difference in self-respect and quality of life.

## JOIN THIS COMMUNITY EFFORT

Dementia Friendly Southern Nevada, which is spearheaded by Cleveland Clinic Lou Ruvo Center for Brain Health, needs you. To volunteer or learn more about this community program, please visit [dementiafriendlynevada.org](http://dementiafriendlynevada.org).



# Month of Memories: November 2017

President Reagan designated November National Alzheimer's Disease Awareness Month. Each year, Keep Memory Alive leverages the month to raise awareness and funds for this devastating disease that affects so many patients who come through our doors at Cleveland Clinic Lou Ruvo Center for Brain Health. We also honor their friends and family who serve as dedicated caregivers because November is also National Family Caregiving Month.

**Here's a sampling of our special events:**

## **Giving Thanks, a Holiday Spectacular: November 9**

This heartwarming "Great Gatsby"-themed event was likely one of the few holiday festivities some of our patients and their caregivers attended. It featured more than 60 performers entertaining 240 guests, who enjoyed a three-course plated lunch from Master Chef Gustav Mauler, Prohibition-era "mocktails" from flair bartenders and a souvenir photo.



## **SPECIALTY COCKTAIL PURVEYORS**

Throughout the month, Las Vegas enjoyed specialty cocktails from the following community partners:

7th and Carson

Andiron Steak & Sea

Atomic Liquor

Bin 702

Carson Kitchen

Classic Jewel

Ellis Island Casino & Brewery;  
Ellis Island BBQ Restaurant

Greens and Proteins

Hakkasan

Honey Salt

La Comida

Le Pho Vietnamese Kitchen

Le Thai

MB Steak

Numb Bar & Frozen Cocktails

Piero's Italian Cuisine

Searsucker

The Kitchen at Atomic

The Martini

The Pint

Therapy



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**Kickoff Event:****November 1**

Community collaborator Therapy in downtown Las Vegas opened its doors to Keep Memory Alive supporters, who enjoyed a specialty cocktail, “The Violet,” which was purple, the color that symbolizes Alzheimer’s disease.

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**Ride to Remember:****November 10**

Twenty-five enthusiastic participants cycled indoors at The Ride. Thanks to Shannon McBeath, owner (front row, right), for opening her studio to Keep Memory Alive to raise awareness and funds.

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**Herman’s Hermits:****November 17**

Thanks to the Golden Nugget for donating to Keep Memory Alive 20 percent of ticket sales for Herman’s Hermits starring Peter Noone.

---

**Dining for a Cause at Chipotle:****November 29**

All Chipotle locations throughout Nevada committed 50 percent of sales to Keep Memory Alive from customers who mentioned the fundraiser.

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**A Final November Memory:****November 30**

Del Frisco’s Double Eagle Steakhouse hosted a reception for community partners and Month of Memories supporters and beneficiaries. Guests enjoyed delectable beverages and tidbits from this world-class steakhouse.

Patti Davis, Alzheimer’s activist, daughter of Nancy and Ronald Reagan:

**November 28**

This lecture drew 200 people who came to hear Patti Davis passionately articulate how her experience as a caregiver to her Alzheimer’s disease-stricken father, President Reagan, inspired her to start a support group in her native California.

Beginning in 2018, the Lou Ruvo Center for Brain Health will serve as the first franchised location of “Beyond Alzheimer’s,” a support group concept Ms. Davis introduced that pairs a facilitator with a medical provider, enhancing the team’s ability to respond more rapidly to the questions and concerns caregivers have.

“In the world of Alzheimer’s, more than with any other disease, the family members are patients, too. Having a safe place to go and talk, cry, laugh sometimes, widens the world and lightens some of the pain,”



  
AD activist, Patti Davis, spoke to 200 people at the Lou Ruvo Center for Brain Health

says Ms. Davis, who shared many nuggets that resonated with her audience, including:

- “There are three Gs of Alzheimer’s: grief, guilt, gratitude.”
- “Grief isn’t biodegradable. It will wait for you and come find you. You have to deal with it as it comes.”

Her parting advice? “This is a disease that runs the show and is going to win in the end. But along the way, you can enjoy some victories.”



The team from Caesars Foundation is honored for supporting HealthyBrains.org for more than three years. L- R: Brook Hurd, Chris Snow, Kat Hartley, Carolyn Wheeler, Matt Krystofiak and Laura Mengel

# Change for the Better: Another Way to Fight Brain Disease

A Penny for Your Thoughts™ is a community-based, grassroots fundraising program conceived by Keep Memory Alive to encourage all levels of giving. One hundred percent of funds raised advance Cleveland Clinic Lou Ruvo Center for Brain Health's mission to support family caregivers of those with degenerative brain diseases. A Penny for Your Thoughts is the brain child of Keep Memory Alive Vice Chair Camille Ruvo.

Last November, Las Vegas middle schools Sig Rogich and Victoria Fertitta engaged in their annual challenge to see which school could collect the most spare change to fight brain disease.

To educate the students on brain health and inspire them to participate, the Lou Ruvo Center for Brain Health's Dylan Wint, MD, NV Energy Chair for Brain Health; Samuel Hickson, LSW, MSSA; and HealthyBrains.org team members Kat Hartley and Brook Hurd spoke at each school.

The "Miracle Minute" fundraiser on Nov. 9 was a lively success, with students producing spare coins from the couch, the car seat, and from friends and family to deliver \$6,300 in change in a single minute, as tallied by Cannery Casino Resorts.

Victoria Fertitta Middle School won for the first time in the three-year matchup. The prize? Fertitta students were allowed to duct tape their dean of students, Pamela Woolery, to the wall. Students are already planning to up their game next year by selling pieces of tape — along with the right to use them on school administrators — to raise even more funds for Keep Memory Alive.

With the support of our community friends and partners of all ages, we can all Keep Memory Alive.



Dylan Wint, MD, discusses brain health with students at Fertitta Middle School

## How You Can Help: Partnership Options

We offer our community partners employee engagement and education about whichever fundraising program they choose to support and about Lou Ruvo Center for Brain Health services so they can rally behind the cause. Program partners receive customized donation receptacles, promotional materials and signage, and media outreach around these partnerships:

- **Casino and Retail Program:** Place donation boxes on the sales floor to encourage guests to donate spare change to a worthy cause.
- **Restaurant Program:** Allow guests to round up their checks and donate the extra funds to Keep Memory Alive.
- **Employee-to-Employee Initiative:** Issue a challenge to business owners to engage employees through a company-wide employee giving campaign.
- **School-Based Program:** Issue a challenge to students to contribute spare change to the school's collection box.



**A PENNY FOR YOUR THOUGHTS**  
THE CHANGE THAT MAKES A DIFFERENCE  
BENEFITING CLEVELAND CLINIC LOU RUVO CENTER FOR BRAIN HEALTH

## HAVE A PENNY? GIVE A PENNY

Do you know a workplace, business or school that would like to help? Ask them to contact us at 702.263.9797 or [penny@keepmemoryalive.org](mailto:penny@keepmemoryalive.org).

You can participate in A Penny for Your Thoughts anywhere, anytime. Give online at [keepmemoryalive.org/penny](http://keepmemoryalive.org/penny).





BUY YOUR TICKETS TODAY



Wolfgang Puck



Michael Bublé



Jean-Georges Vongerichten



# THE 2018 POWER OF LOVE® GALA

SATURDAY, APRIL 28, 2018 | LAS VEGAS, NV

Michael Bublé • Wolfgang Puck • Jean-Georges Vongerichten

Power of Love® is a unique, one-of-a-kind food, wine, spirits, and entertainment experience that raises funds and awareness for Cleveland Clinic Lou Ruvo Center for Brain Health. **Alzheimer's • Huntington's • Parkinson's • Multiple System Atrophy • Multiple Sclerosis**

## 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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FOR MORE INFORMATION, GO TO [KEEPMEMORYALIVE.ORG/POL](http://KEEPMEMORYALIVE.ORG/POL) OR CALL 702.263.9797



SOUTHERN GLAZER'S  
WINE AND SPIRITS



# Event Hosts Help Raise Funds and Awareness for Keep Memory Alive

Throughout 2017, the Keep Memory Alive special events team was busy collaborating with enthusiastic third-party event hosts who selected Keep Memory Alive as their charity of choice. Here are but a few examples.

  
New to this year's offering was a whimsical, over-the-top dessert display

## Sip & Savor

Thank you to long-time Keep Memory Alive supporter Chef Wolfgang Puck and Spago at the Forum Shops in Las Vegas for once again hosting Sip & Savor to benefit Keep Memory Alive. This annual dine-around event featured tastes from each of the Wolfgang Puck Fine Dining Group restaurants in Las Vegas. It also marked the final year in this location, as Spago is relocating to the Bellagio in summer 2018.



The pastry team with Wolfgang Puck Partner David Robins, right – photo credit Sam Abrams



**“We came to Las Vegas in December 1992 and our first night, had 50 customers and 100 employees,” Wolfgang Puck says. “Cowboys came in and asked where the buffet was. I said to myself, ‘I think I may have made the biggest mistake of my life,’ but really, it turned out to be one of my best accomplishments after we became a part of this great community of Las Vegas.” At the 2017 Sip & Savor, Larry Ruvo presented Chef Puck with his own personal Stetson cowboy hat in memory of that day.**

## Audi Henderson Lake Las Vegas Classic

Fun for hard-core, recreational and non- golfers alike, this three day fiesta of golf, food and fun kicked off with a Thursday evening VIP party at Topgolf, Las Vegas’ trendy hotspot that blends technology, entertainment, food and beverage to players and non-players of all levels.

On Friday, golfers experienced the magnificent Reflection Bay Golf Club at Lake Las Vegas, a Jack Nicklaus Signature Design course.

Dubbed “The Feast,” festivities concluded on Saturday evening with a silent auction, dancing on the beach, and an abundance of food from some of Las Vegas’ finest restaurants including Beauty and Essex, Capital Grille, Carnevino, Oscar’s, STK, Tau and many more.



**This inaugural event was such a success that a date has already been set for 2018: November 1-3.**





## Holiday Features

Once again for the 2017 holiday season, two loyal supporters stepped up with generous holiday promotions.



## LAGOS

Lagos offered its custom collection inspired by Keep Memory Alive's iconic Frank Gehry-designed headquarters, with 100 percent of the purchase price coming to Keep Memory Alive. (Lagos.com/KeepMemoryAlive)



## TOWN&COUNTRY

The February issue of *Town & Country* features the magazine's first-ever Jewelry Awards. Congratulations to Steven Lagos, who was recognized as one of the Philanthropists of the Year for his work with Keep Memory Alive.

## Mulberry

At Mulberry located inside The Forum Shops at Caesars Palace, a portion of sales during December were donated to Keep Memory Alive. For those who couldn't make it to the Las Vegas store, phone purchases were accommodated.



## Whiskey at The Rock

Total Wine and More hosted the inaugural Whiskey at the Rock at Red Rock Casino, Resort and Spa in Las Vegas. The event featured a great array of whiskey vendors outside around an exclusive 21+ pool area, The Pond. More than \$26,000 was raised, including a \$7,500 donation from whiskey supplier, Edrington.

# Visitor Photo Gallery



David Dahan of Las Ventanas with Jody Ghanem



L-R – Larry Vetter, Ted Rollins, Michael Rollins and Xavier Steyaert

♡  
Donna Achrem unveils a plaque in memory of her Jordan, our canine greeter



Melody Dagash of Del Frisco's with Renae DeLucia



Suzette Federico and David Strow



L-R – Barbara Hedrick, Renae DeLucia and Elise Wright



Dr. Randal Peoples



SKG tour





L-R – Jim Walsh, Larry Ruvo, Jack Binion, Brian Basbaugh



Touro University Dean John Dougherty, Schyler Richards, Jody Ghanem, Ray Alden



Jody Ghanem with Monsignor Robert Ritchie



Gaia Gaja



Kim and Brady Lawrence



Florian Etienne



L-R – Larry Ruvo, Don Steiner and Jeffrey Cummings, MD, ScD



Karla Madalin and Dale Petroski



Annie Lindsay and Chris Linzey



# Visitor Photo Gallery *continued*

Miss South Africa and fellow contestants visit the Lou Ruvo Center for Brain Health



Photo Credit Patrick Prather

Miss South Africa Demi-Leigh Nel-Peters is crowned Miss Universe in Las Vegas



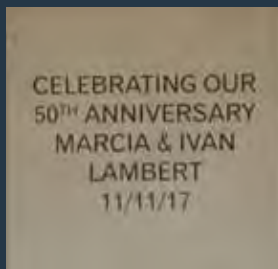
Joe Clark, left, tours with Larry Ruvo



Natasha Caronna visits the center



Back row, neurorehabilitation team, L-R – Katy Conroy, Shaina Meyer, Sondi Facer, Christy Ross and Matt Plourde  
Front row: Marcia and Ivan Lambert



## A NEW PLAQUE ON OUR HONOR WALL COMMEMORATES GOLDEN ANNIVERSARY

To commemorate their 50th wedding anniversary in November 2017, Marcia and Ivan Lambert selected a plaque on the Lou Ruvo Center for Brain Health's Honor Wall. The couple collaborated with the center's development team to schedule the unveiling over the holidays when family from across the

country were in town to join in the festivities.

Mr. Lambert volunteers at the Lou Ruvo Center for Brain Health while Mrs. Lambert, who particularly enjoys the physical and occupational therapy she receives, asked for a photo with her neurorehabilitation team.



# Recognized for Excellence

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

**We celebrate their accomplishments.**

## 2018 Nurse Practitioner State Award for Excellence

*(American Association of Nurse Practitioners, 2018)*

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



Maileen Ulep-Reed, MSN  
APRN, FNP-BC

## Partner in MS Care

*(National Multiple Sclerosis Society, December 2017)*

Cleveland Clinic Lou Ruvo Center for Brain Health receives three year renewal

## Top Doctors

*(KNPR's Desert Companion, August 2017)*

Jeffrey Cummings, MD, ScD

## Women to Watch

*(Nevada Business Magazine, August 2017)*

Le Hua, MD

## Top Tier Managers

*(Cleveland Clinic 2017 Employee Engagement survey)*

LeeAnn Mandarino, Education  
Shaina Meyer, Neurorehabilitation  
Anna Robins, Keep Memory Alive  
Elaine Pienschke, Imaging  
Erick Vidmar, Administration



Cleveland Clinic Lou Ruvo Center  
for Brain Health MS team



## Keep Memory Alive Event Center

Not only are our people award-winning, but so is our Keep Memory Alive Event Center.

**Stella Award for Best Conference Center in the Far West Region (Northstar Meetings Group, October 2017)**

**2017 Best of Awards for Best Venue for Expos and Tradeshows (Unique Venues, 2017)**

**Venue of Excellence Award (Wedding Industry Professionals Association, 2017)**

# KEEP MEMORY ALIVE

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



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MULTIPLE SYSTEM ATROPHY | MULTIPLE SCLEROSIS



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Power of Love® is a unique, one-of-a-kind experience that  
raises funds and awareness for Cleveland Clinic Lou Ruvo  
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**SATURDAY, APRIL 28, 2018**

MGM GRAND GARDEN ARENA, LAS VEGAS, NV



### FOR MORE INFORMATION

keepmemoryalive.org/pol • 702.263.9797 • PowerOfLove@keepmemoryalive.org

Proceeds benefit Cleveland Clinic Lou Ruvo Center for Brain Health



## KEEP MEMORY ALIVE

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MULTIPLE SYSTEM ATROPHY | MULTIPLE SCLEROSIS