

# MEMORY

PRESERVING YOUR

SPRING 2021

Don't Fall for **Fraud**

Can **ROBOPETS**  
Beat Loneliness?

**Medications**  
and Memory

When Your Loved  
One **WON'T**  
**COOPERATE**

## LEE WOODRUFF

HOW TWO FAMILY CRISES GAVE HER  
UNIQUE INSIGHTS ON CAREGIVING



FISHER CENTER FOR  
ALZHEIMER'S  
RESEARCH FOUNDATION

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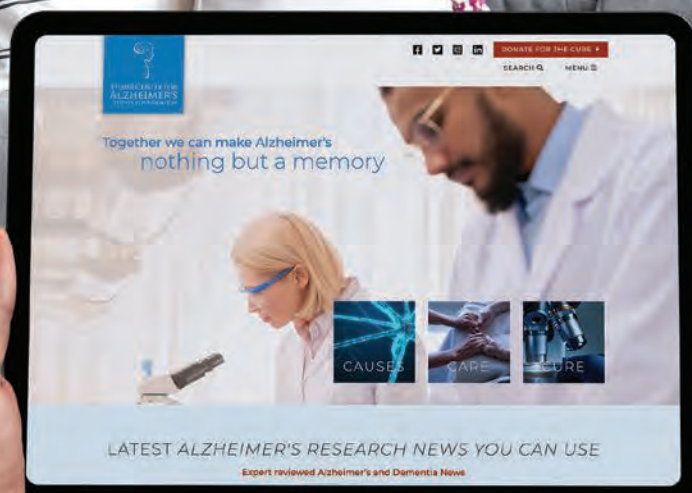
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Our Information Program continues to spearhead efforts to increase awareness of and education about Alzheimer's disease to you.

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# ON THE COVER

**Lee Woodruff**

The author/journalist calls caring for her injured husband as her father struggled with Alzheimer’s disease “the hardest thing I’ve ever done.”

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PRESERVING YOUR

# MEMORY



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**ALZHEIMER'S**  
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# New Beginnings

Photo by Jodi Jones

**S**pring greetings to you. As we continue battling COVID-19, we now have a significant weapon at our disposal in the form of vaccines. But this scientific progress is not the only cause for celebration: The Fisher Center for Alzheimer's Research Foundation beat its fundraising goal for 2020 and gifted an additional \$1 million to the Fisher Center Lab at The Rockefeller University!

As this issue arrives in March, we celebrate doctors for the medical care they provide across the country and the vital role of women's contributions to American history. This includes kicking off 2021 with the first woman vice president!

To that end, read our cover feature on Lee Woodruff (page 16), an extraordinary woman who is an author, journalist, wife, daughter and caregiver. Her story is both unique and relatable to what many Americans face today with caring for ailing parents while raising their children. Lee witnessed two very different caregiving scenarios—her husband Bob recovering from a brain injury and her father succumbing to a brain disease, Alzheimer's. Lee candidly shared with us the humorous moments as well as the difficult ones her family experienced.

We are also pointing the spotlight on my good friend and Fisher Center Lab research

associate Dr. Yashoda Krishna Sunkari (page 27). Dr. Sunkari not only has a deep love for cricket but an infectious laugh to boot. Also, get solid tips on how to protect your family from fraud and loneliness (pages 8 and 10); find out what types of medications may be affecting your memory (page 12); and learn about author Bonnie Gable's new book that helps children make sense of Alzheimer's disease (page 25).

Finally, we want to hear from you this year. We want to know how we can improve the quality of resources we provide you, so please let us know your thoughts by participating in the upcoming survey in our summer issue. As you make your way through 2021, I hope it is with a good spark of bold action. Thank you for lending us a hand through your donations and support so we, in turn, can continue to provide a hand to those who need it through our Alzheimer's research and resources program.

Warmest regards,



*Lucretia Holden, SHRM-CP*  
**Executive Director**



## About the Fisher Center for Alzheimer's Research Foundation

Since 1995, the Fisher Center Foundation, a 501(c)(3) nonprofit organization, has provided hope and help to the public by funding research into the **cause**, **care** and **cure** of Alzheimer's disease and creating much-needed information programs. Our internationally renowned scientists are at the forefront of research that provides a conceptual framework for modern-day investigations into Alzheimer's disease.

The Fisher Center Foundation has earned Charity Navigator's highest 4-Star rating for nine consecutive years for fiscal management and commitment to accountability and transparency.

To read back issues of this magazine, go to [ALZinfo.org/pym-archive/](https://ALZinfo.org/pym-archive/).

## We want to hear from you.

What additional Alzheimer's topics could we cover?

Do you have any questions for the experts?

Send us an email at [info@ALZinfo.org](mailto:info@ALZinfo.org).



## A Blood Test for Alzheimer's Grows Closer



Getting a blood test for Alzheimer's disease could one day be as easy as getting a cholesterol test for heart disease, two new studies suggest. The studies looked at specific kinds of tau, a protein that forms the telltale tangles of Alzheimer's that spread slowly through the brain, shutting down memory and thinking skills as the disease progresses.

One study of 1,402 men and women living in Sweden, Colombia and the United States found that a blood test was 96% accurate in determining whether someone had Alzheimer's vs. another brain disorder. The findings were published in *JAMA*.

In another study, in the *Journal of Experimental Medicine*, researchers at Washington University School of Medicine reported that tau blood measures correlated highly with the presence of beta-amyloid, another toxic protein that builds up in the brains of those with Alzheimer's.

Currently, an Alzheimer's diagnosis typically requires multiple doctor visits over a year or two, along with expensive brain scans. A simple and affordable blood test would be much safer and could also be used to speed up the testing of new treatments. Patients could be easily monitored, for example, to see whether experimental treatments are having beneficial effects on the brain. The study authors estimate that a blood test for Alzheimer's could be available in as soon as two to three years.

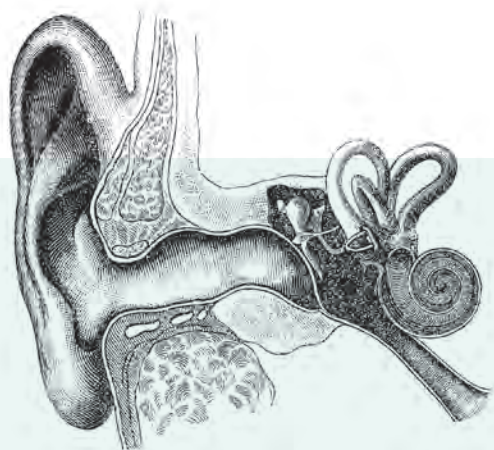
**40%**  
**OF ALZHEIMER'S CASES  
COULD BE PREVENTED**

An international panel of experts reports that 40% of dementia cases could be prevented or delayed, highlighting the importance of modifiable lifestyle factors that may contribute to Alzheimer's disease onset.

The report, from *The Lancet* Commissions, identified three new

risk factors for Alzheimer's and other forms of dementia: head injuries in midlife (contributing to an estimated 3% of dementia cases); excessive alcohol consumption (1% of cases); and air pollution (2% of cases).

These add to nine other risk factors that the group previously identified:



## GOOD EAR CARE MAY BE GOOD FOR YOUR BRAIN

By impairing your hearing, earwax could be impairing your cognitive health. Even mild hearing loss can contribute to social isolation, a known risk factor for Alzheimer's disease.

People living in nursing homes, where medical care appointments are limited, and those who wear hearing aids are particularly likely to have a buildup of impacted earwax. Experts caution against using cotton swabs or sharp objects to remove it, since they can push wax in farther or damage the ear canal.

In most cases, letting warm water douse the ear, during a shower, for example, can help soften and remove excess wax, which is extruded naturally from the ear canal. Using saline or oil drops may also help. In some cases, professional help may be needed.

The benefits may be immediate. One small study by Japanese researchers found significant improvements in hearing in older men and women with memory problems after earwax removal. They also scored higher on tests of memory and thinking skills.

# RISKY ALZHEIMER'S MEDICATIONS

Nearly three-quarters of people with Alzheimer's disease are on risky medications, according to a *JAMA* report that looked at Medicare records of 737,839 Americans with dementia who were living at home. While many of these drugs may help with certain conditions, all carry potentially serious risks, particularly when taken for months on end or in combination.

Researchers found that 73.5% of these older patients had filled at least one prescription for an antidepressant, opioid painkiller, seizure medicine, or antianxiety or antipsychotic drug in a one-year period. Doctors commonly prescribe such drugs to treat the agitation, aggression or apathy that often accompanies Alzheimer's.

One of the most common drug risks is falls, which can lead to broken hips, long hospital stays and confusion. Some drugs can cause side effects like agitation or urinary problems that further complicate the management of people with Alzheimer's. Antipsychotics have been linked to premature death.

It is critical for patients with Alzheimer's and their caregivers to be aware of potential problems, to read carefully the boxed warnings on drug packages and to discuss possible issues with their doctors before starting a new treatment. Also, patients should regularly review medications with a physician and adjust dosages and prescriptions as needed.

lack of formal schooling (contributing to 7% of dementia cases); age-related hearing loss (8%); smoking (5%); hypertension (2%); obesity (1%); lack of exercise (2%); depression (4%); diabetes (1%); and lack of social contact (4%).

Other steps you can take to decrease Alzheimer's risk include:



Keep systolic blood pressure (the top number) to 130 or lower.



Avoid loud noises and get a hearing aid if you need one.



Don't smoke, and avoid air pollution (including secondhand smoke).



Stay physically active.



Maintain a healthy body mass index.

# DON'T FALL FOR



## PROTECT YOUR FAMILY AND FINANCES

By Cindy Kuzma

CRIMINALS FREQUENTLY TARGET OLDER ADULTS WITH SCHEMES AIMING TO STEAL. HERE'S HOW TO SPOT THEM.

**S**ome criminals call or send a letter; others stop by for a visit. The tech-savvy may crop up on the computer. Bad actors out to pull a scam or confidence scheme often target older adults.

When these swindles work, they're costly. Every year, older victims lose billions of dollars. And those with dementia face a greater risk. In fact, susceptibility to scams can be an early warning sign of Alzheimer's disease.

Fortunately, there's a lot you can do to protect yourself, your family and your bank accounts. Here's how to defend yourself or a loved one against several common types of fraud.

### THE SCHEME: TECH SUPPORT CON

Scammers might call or email and claim to be working for a company like Microsoft, Apple or Google. In other cases, a warning pops up in your internet browser. You're urged to call a toll-free number immediately or you'll lose personal data. From there, thieves may charge you for a product or fix you don't need, or even install malicious software on your computer.

**The Solution:** Keep computer software up-to-date. Install antivirus software, pop-up blockers and a firewall for extra security. Don't click on any links or call a phone number in a pop-up window. Never give anyone you don't know control of your computer. Instead, seek out a computer technician you can trust to answer questions about viruses or malware.

### THE SCHEME: PHONE SCAM

Robocallers may dial without warning to claim:

- You've won a sweepstakes or foreign lottery
- They want to sell you products, collect money for charity or reduce your interest rates



- You owe money to the IRS
- Your Social Security number has been suspended

In almost every case, the caller will ask for personal details or payment information to process the prize, purchase or service.

**The Solution:** Fortunately, recent legislation increases penalties for robocall scammers and requires companies to take new steps to stop them. You can help by placing your phone numbers on the National Do Not Call Registry (**donotcall.gov**). Know—or reinforce to your loved one—that the government won't call asking for personal information. Never give Social Security, bank account or credit card numbers to anyone over the phone, unless you made the call.

### **THE SCHEME: MEDICAL OR HEALTH CARE FRAUD**

Many marketers prey on false hopes about a cure for Alzheimer's disease, offering "miracle" supplements. These unproven treatments might actually cause harm. Health insurance fraudsters

sell fake medical insurance plans or charge Medicare for products and services they never provided.

**The Solution:** Avoid "too-good-to-be-true" products, such as supplements that quickly reverse dementia. Compare claims to information from your health care provider or other reputable sources. Always consult your health care team—or your loved one's—before trying any new treatments.

Review important insurance documents like explanations of benefits and claims. Make sure they match your own records. Only divulge insurance or Medicare information to those who have provided you with medical services.

### **LOOKING OUT FOR LOVED ONES**

If you are trying to protect a family member, staying in close contact can help prevent all types of tricks. Watch for red flags of victimization like missing money, mismatched signatures or large, unusual credit card purchases.

People with Alzheimer's disease may choose a family member or

trustee to look over bank statements and other financial records. Or it may be wise to set up a durable power of attorney for finances.

Transferring financial affairs can be touchy. Handle the situation with respect. Explain how you'll manage matters together for everyone's benefit. You might choose to cancel credit cards or set tight spending limits. If so, give the person cash for some spending independence.

Finally, if you or a loved one fall victim to fraud, don't suffer in silence or shame. Instead, report the crime to your bank or credit card company. Involve police, FBI or other relevant authorities. Send as much detail and backup as you can. Flagging these schemes can help stop scammers before they strike again.

If you or someone you know may have been a victim of elder fraud, you can submit a tip to the FBI online at [tips.fbi.gov](https://tips.fbi.gov).

# COULD A ROBOPET OR DOLL BE THE Answer for Loneliness?

THERAPEUTIC USE OF ROBOTIC ANIMALS AND BABY DOLLS CAN INCREASE ENGAGEMENT AND CONNECTEDNESS.

By Lauren Arcuri

**E**ven before the COVID-19 pandemic, loneliness and social disconnection were issues for older people, especially those with Alzheimer's disease or other forms of dementia. Now, with many long-term care facilities needing to restrict visitors, and numerous older adults staying alone in their homes, the risk for serious physical or mental illness from social isolation has only intensified.

Social distancing has disrupted the routines of many people with Alzheimer's. Being unable to see their loved ones can increase anxiety,

agitation and behavior issues. Without the regular comfort of visits from family and friends, many with dementia require something that can fill that all-important need for interaction and stimulation.

## ROBOTIC PETS HELP SPUR ENGAGEMENT

Enter the robopet: fluffy, furry robotic animals. Similar to the real thing, robopets respond to a person's touch and voice, and they can imitate animal behavior and develop their own "personality." There are robotic dogs, cats and even a robotic baby harp seal named PARO (for personal robot). Some robotic puppies sport sensors that prompt

them to bark, wag their tails, nap, wake up and pant. Users can also feel simulated heartbeats. Prices range from around \$120 at the low end to \$6,120 for the PARO seal.

Research suggests robotic pet therapy can provide numerous psychological and social benefits for people with dementia. A small 2017 study using the PARO seal found that it decreased stress and anxiety. It also led to reductions in the use of both psychoactive and pain medication for older patients with dementia.

Another recent study reported that robopets help stimulate communication and interaction with other residents and care staff. They can trigger memories of real pets or past experiences, which then spurs new conversations. And staff members noted that the robopets had soothing and calming effects, especially when individuals were anxious or upset. Holding, touching and talking with these robotic companions brought joy to patients and helped reduce loneliness.

If you're interested in a robopet for a loved one with Alzheimer's disease, you may be able to get their health insurance to pay for it. The U.S. Food and Drug Administration classifies PARO as a biofeedback device, so Medicare covers its purchase and use by qualified therapists. Ageless Innovation—a company that makes less expensive





Photos courtesy of Ageless Innovation

## Many people with dementia require something that can fill that all-important need for interaction and stimulation.

robotic dogs and cats—is working on gaining coverage for their pets via Medicare Advantage plans, which are offered through private insurers.

### **THERAPY DOLLS HAVE SIMILAR BENEFITS**

Another care tool that’s catching on in nursing homes and senior facilities across the country: doll therapy. It may help ease anxiety for people with Alzheimer’s disease and, like robopets, this benefit stems from the person being able to interact with the doll.

Early studies have also shown that therapeutic dolls can lessen agitation, aggression and wandering. Similar to robotic animals, they seem to increase communication with others. Overall, using doll therapy for patients with dementia has the potential to significantly improve their ability to relate to the surrounding world.

One study reported that residents would lay dolls on beds, check on them and rock them. Patients would talk to the dolls as though they were real babies and spend time with them. In some cases, they talked about the time when they took care of their own children or grandchildren. Caring for the dolls seemed to bring emotional calmness.

When choosing dolls for therapy, follow recommended guidelines from researchers: The dolls should be babylike in appearance, weigh about 3 pounds and measure approximately 17 inches in length. They should have smiling or calm expressions and should not cry or laugh. Their eyes should open and close. When offering them to people with dementia, allow the person to pick the doll they want. If they refuse or are uncomfortable, they don’t have to choose one.

When doll and robopet therapies

are used respectfully and ethically, these tools can help people with Alzheimer’s disease feel less lonely and improve their social interactions. In a time when direct human social interaction can be unsafe, robopets and dolls can step in to help fill the need for stimulation and connection.



**A variety of therapeutic dolls and robopets are available from online retailers. For information on PARO, visit [parorobots.com](http://parorobots.com).**

# Could Your **MEDICATIONS** Affect Your *Memory?*

By Linda Wasmer Andrews



MEDICATIONS  
COMMONLY USED  
BY OLDER ADULTS  
COULD LEAD TO  
MEMORY DECLINE.

**P**icture an older woman whose memory has been slipping. She often misplaces her keys. She has trouble recalling names. And occasionally she forgets to take the medications lined up on her nightstand. What's going on?

If you're like many people, you may dismiss these changes as "senior moments" or wonder whether they could be signs of a health condition. But if you're a doctor or pharmacist, you might look to what's in those pill bottles by her bed.

A variety of medications can cause memory problems and impaired thinking as side effects. Among the

biggest culprits are drugs with strong anticholinergic effects. That means they block one of the chemicals that brain cells use for communication. Drugs that act this way in the brain are used to treat allergies, painful bowel spasms, loss of bladder control and more.

Recently, however, experts have raised concerns about these medications. In one study published in the journal *Neurology*, researchers tracked the health of nearly 700 older adults for 10 years. Taking anticholinergic meds was tied to a faster decline in memory and language. And the link was strongest

in those with genetic and biological risk factors for Alzheimer's disease.

## **WHICH MEDS MAY CAUSE PROBLEMS?**

Below are some examples of medications with anticholinergic effects:

- Amitriptyline (Elavil) and imipramine (Tofranil), which are antidepressants
- Chlorpheniramine (Aller-Chlor, Chlor-Trimeton) and diphenhydramine (Benadryl), used for allergies
- Dicyclomine (Bentyl), used for irritable bowel syndrome

- Oxybutynin (Ditropan) and tolterodine (Detrol), used for bladder control problems
- Trihexyphenidyl (Artane), used for Parkinson's disease

These drugs impact how brain cells talk to one another. At times, that may lead to memory problems and confusion. Other possible effects include a dry mouth, blurry vision, constipation and, in men, trouble with urinating.

And then there is the possible link to faster mental decline as people age. The *Neurology* study isn't the only one to suggest such a connection. Another study, published in *JAMA Internal Medicine*, included more than 58,000 dementia patients ages 55 and older. Researchers compared them with healthy individuals of the same age and sex. They found that several kinds of anticholinergic drugs were associated with an increased risk for dementia.

These studies have focused on middle-aged and older adults for a reason: As people get older, they're more likely to take multiple medications. This increases the chances of having side effects. Age-related changes in the structure and function of the brain may raise the risk for brain-based side effects even more.

The upshot is that anticholinergic drugs may become riskier as you grow older. Yet they are still commonly prescribed to older patients: About 5 to 6% of all provider visits for patients ages 65 and older result in a prescription for some type of anticholinergic medication.

### WHAT TO DISCUSS WITH YOUR PROVIDER

Just because a drug is listed here doesn't mean it's the wrong choice for you. But it does mean you should

have a conversation with your health care provider. Discuss over-the-counter medicines as well as prescription ones.

Ask about both the expected benefits and the possible risks of your medication. You may want to specifically ask whether it could affect your memory and thinking. That's especially important if you are age 65 or older (or if the medication is for a relative that age). Keep in mind that the more different meds you take, the higher your risk may be of having a bad reaction.

If you're taking one or more of these meds and start having new memory problems, tell your provider. In some cases, you may be able to switch to a different medication or a nondrug treatment. But don't just stop your medication suddenly without talking with your provider first. That could be a prescription for trouble.

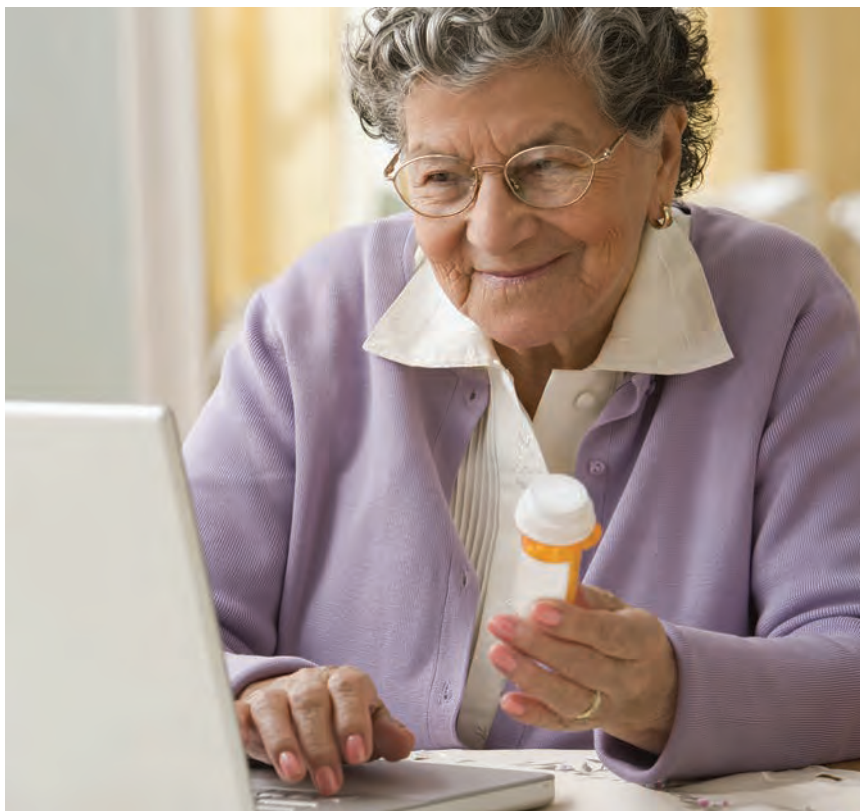
## Watch Out for These Meds, Too

Another group of medications called benzodiazepines should also be on your radar. These common meds are used to treat anxiety and sleeplessness.

Examples include:

- Alprazolam (Xanax)
- Chlordiazepoxide (Librium)
- Diazepam (Valium)
- Lorazepam (Ativan)

Benzodiazepines may cause memory issues and confusion in older adults. Plus, they increase the risk of falling. Discuss potential side effects with your health care provider.



# Unlocking **GAMMA-SECRETASE ACTIVATING PROTEIN'S** Role in Beta-Amyloid Formation

By Lauren Arcuri

**G**amma-secretase activating protein (GSAP) was discovered a decade ago by scientists at the Zachary and Elizabeth M. Fisher Center for Research on Alzheimer's Disease (the Fisher Center Lab) at The Rockefeller University. Researchers know GSAP is involved in the pathophysiology of Alzheimer's disease and that it regulates the activity of gamma-secretase, a complex of four proteins that cleaves or breaks apart other proteins inside a cell. GSAP stimulates the production of beta-amyloid, the toxic building block of the amyloid plaques that are the hallmark of Alzheimer's disease in the human brain. Scientists generally agree that blocking or reducing beta-amyloid formation, without affecting other key pathways, would help patients with Alzheimer's disease.

Researchers also know that lowering GSAP levels lowers beta-amyloid production, both in cell cultures and in animal models of Alzheimer's disease. A few years ago, a former Fisher Center scientist, Dr. Gen He, discovered that inhibition of GSAP selectively lowers beta-amyloid without affecting the Notch pathway, an evolutionarily conserved cell signaling pathway that is indispensable due to its role in cell proliferation, differentiation and survival, and therefore cannot be turned off.

Additional studies have confirmed that GSAP appears to play a key role in Alzheimer's disease pathology. Two new studies from the Fisher Center further clarify GSAP's function and its role in facilitating the generation of beta-amyloid peptides, hopefully leading us closer to a therapeutic target for Alzheimer's disease.

## **CLARIFYING THE FUNCTION OF GSAP**

Inside cells, proteins form complexes with other proteins and cellular components to carry out their biological functions. Dr. Peng Xu and his team at the Fisher Center

designed a study to try to identify GSAP's cellular partners, or the proteins that physically interact with GSAP. Knowing the roles of these more familiar proteins might shed light on GSAP's functions.

The team identified the proteins that bind to GSAP and deduced that GSAP might be involved in specific key biological pathways that are often altered in Alzheimer's disease. They then used single-nuclei RNA sequencing technology to confirm that, after eliminating GSAP in the mouse brain via genetics, these pathways were consistently altered.

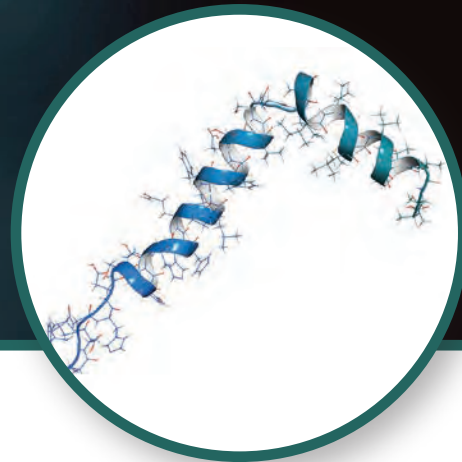
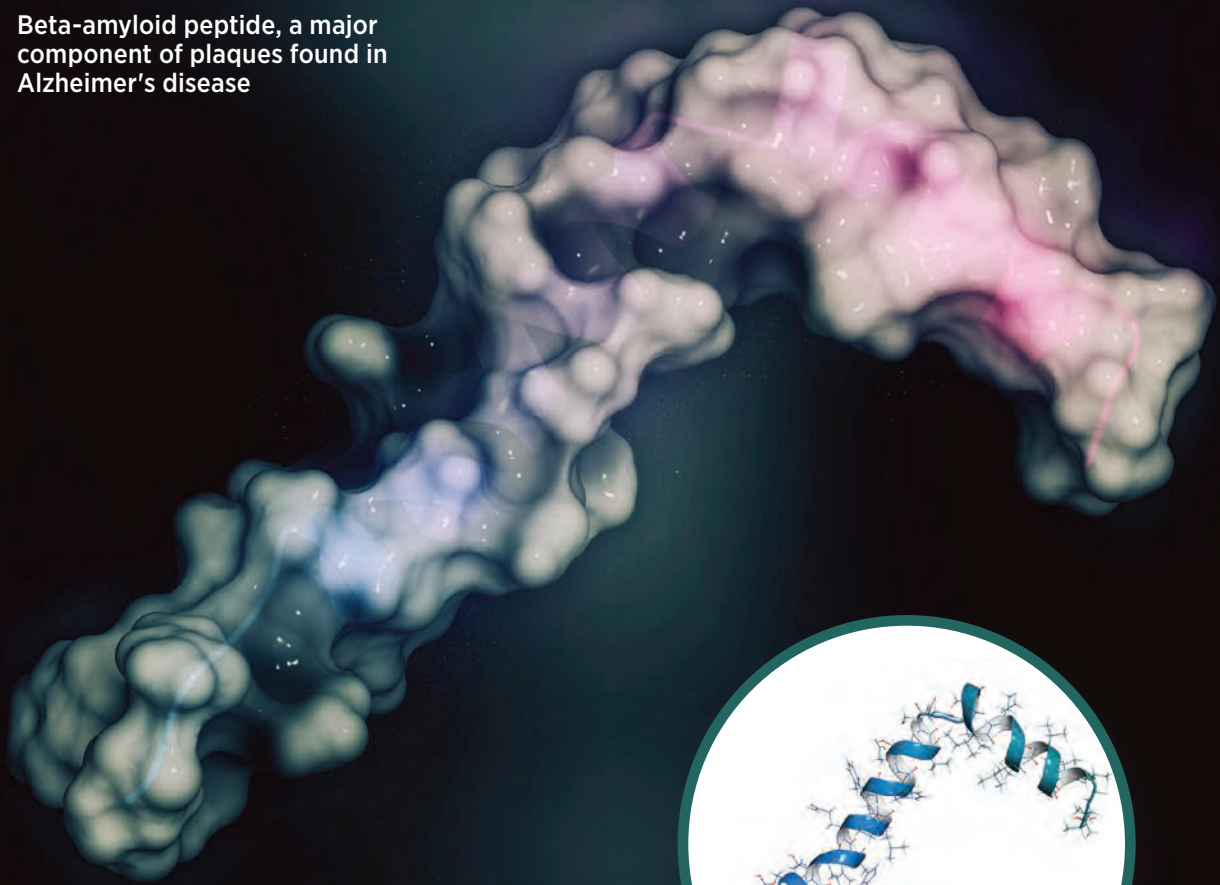
Dr. Xu and his colleagues learned that GSAP is found in higher concentration in microdomains associated with mitochondria (the energy factories of the cell), and that in some neurons, GSAP primarily affected the mitochondria's function. When they eliminated GSAP from these neurons, the accumulation of toxic products was reduced, leading to a healthier cellular lipid environment and enhanced mitochondrial function. The team then lowered GSAP genetically in living mice affected by a version of Alzheimer's disease and found that lower GSAP levels restored the mice's cognitive function.

The study not only uncovered novel GSAP molecular and cellular functions but suggests that lowering GSAP in humans might reduce the pathology associated with Alzheimer's disease.

## **GSAP'S ROLE IN AMYLOID PRECURSOR PROTEIN TRAFFICKING**

One suspected role of GSAP is influencing amyloid precursor protein (APP) trafficking. APP is the protein that is first trafficked inside cells, then undergoes sequential breakdown by enzymes, including gamma-secretase (regulated by GSAP), to generate the toxic beta-amyloid peptide.

Beta-amyloid peptide, a major component of plaques found in Alzheimer's disease



Dr. Jerry Chang and other scientists at the Fisher Center used advanced microscopic techniques to evaluate this hypothesis. Dr. Chang developed a combination of microscopic/imaging techniques that allows very high resolution and live imaging (looking at living cells), which is necessary because trafficking is a dynamic event.

Using an advanced fluorescence microscopy technique combined with sophisticated imaging analysis, Dr. Chang looked directly into living cells to visualize APP intracellular trafficking and to measure the dynamics of these events. The results suggest that GSAP contributes to a major switch in the trafficking mode of APP, “locking” the protein in a state that favors the formation of beta-amyloid. While further work is needed to fully understand this mechanism and the nature of the APP “locked” state, it is a major clue to how beta-amyloid is formed and GSAP’s role.

Understanding GSAP’s role in the pathway that forms beta-amyloid will hopefully pave the way for new strategies to reduce beta-amyloid formation and treat Alzheimer’s pathology. “Dr. Paul Greengard, founding director of the Fisher Center Lab, under whose supervision most of this work was initiated and performed, was a strong believer in GSAP’s roles. These two studies certainly abound in his direction,” says Dr. Marc Flajolet, acting director of the lab.

To support the Fisher Center’s groundbreaking Alzheimer’s disease research, donate using the envelope inside this issue.

# ‘The Hardest Thing I’ve Ever Done’

Having observed two different sides of caregiving up close, Lee Woodruff offers insights on caring for loved ones—and for yourself.

By Charlotte Robinson

**W**hile it’s natural for mothers to watch their daughters go through many of the same milestones of life that they did—graduations, marriage, motherhood—sometimes their shared experiences turn out to be unexpected, and painful, ones. Terry McConaughy saw her daughter, Lee Woodruff, graduate from Colgate University, embark on a successful career, marry and have four children. Yet neither woman could have predicted that they would simultaneously be thrust into the role of caregiver to their husbands.

Lee is a public speaker, author, journalist and former contributing reporter for *CBS This Morning* and *Good Morning America*. In 2006, her husband, Bob Woodruff, suffered a traumatic brain injury when a roadside bomb went off while he was reporting for ABC News from Iraq. While she was

supporting her husband’s recovery, which included relearning basic functions such as speech, her father, David McConaughy, was struggling with Alzheimer’s disease and became dependent on her mother for care.

## **FAMILY MAN**

David McConaughy earned a degree in textile engineering from the Philadelphia Institute of Textiles and served as a corporate vice president at Albany International until his retirement. As Lee wrote about him, “He was the last generation of an industrial era, working his way up one company ladder for his entire career.”

At home, he was a loving father to his three daughters, who never made them feel there were limits to what they could achieve. When Lee announced she was getting married and moving to China, he gave his



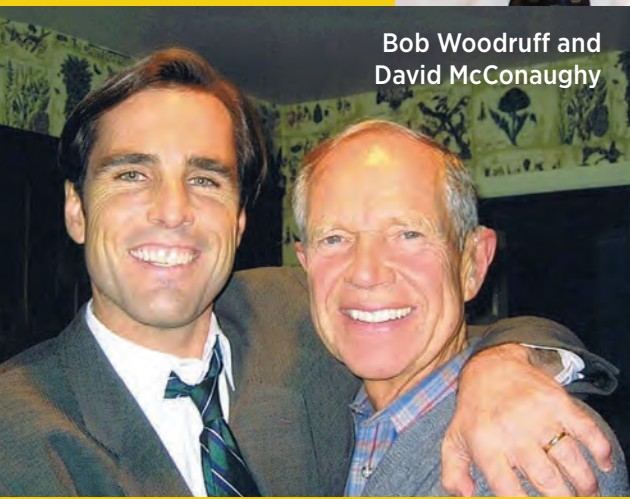




Lee and her dad in the early 1960s



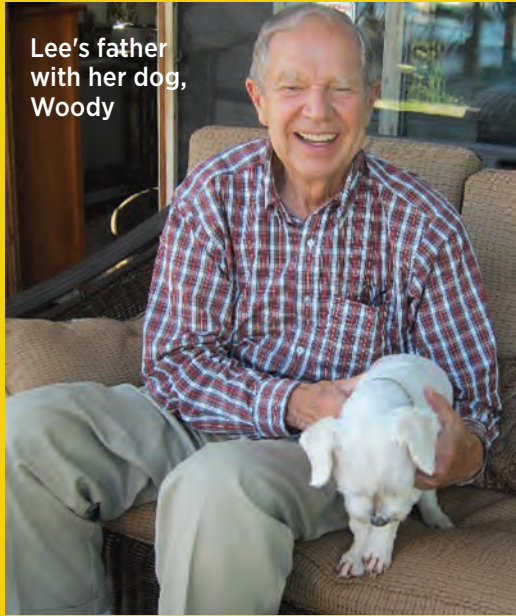
Lee and her parents in 2006



Bob Woodruff and David McConaughy



Lee (far left) with her sisters and parents



Lee's father with her dog, Woody

**“I got only support, love and encouragement from my father at every pivotal juncture of my life.”**

blessing without reservations. He was supportive when Bob gave up practicing law to try journalism. “I got only support, love and encouragement from my father at every pivotal juncture of my life,” Lee wrote.

There was a history of “senility” in David’s family, as the older generations called it, and by the time he reached his late 60s, he was experiencing memory loss. So, it was no great surprise when he received an Alzheimer’s diagnosis.

Realizing it would be best to be closer to their daughters for support, the McConaughys relocated from their postretirement home in California to the East Coast. They settled into a community near Boston that included independent living, memory care and nursing home facilities so that David’s living situation could transition as needed. It was in the nursing home there that he passed away in March 2015. Terry, now 88 years old, still lives there independently today.

### INVENTING WORK-AROUNDS

Despite uprooting their lives to contend with the disease, talking about it was difficult for Lee’s parents. “One of the interesting things to me is I don’t think we ever said the word *Alzheimer’s* to my father, nor did he say it to us,” she recalls. “It was kind of a dignity thing, which made it really hard—we had to talk ‘around’ something.”

Through the years, Lee saw her father struggle through varying stages of forgetfulness and aphasia. “It felt like that long, slow dance Nancy Reagan talked about,” she says. Yet she found ways to preserve his dignity and connect with the person inside.

One way to do this, she learned from Alzheimer’s experts and from her own experience, was by allowing her father to make choices whenever possible. “I realized, here’s this man whose daughter is dressing him right now and there’s some part of his brain that’s well aware of that,” she says. “So, it would be, ‘Do you want the blue slacks or the green, Dad?’ And that would give him that moment.”

Another way she triggered connection was using photo albums as a conversation starter. “Flipping through the photos of his past and our life together was so nice because it could remind him in some small, flickering way of who he had been,” she says. Showing him photos, she would recall anecdotes and ask yes-or-no questions to draw him out and allow him to participate in telling his own stories.

Music was also a connection to memories. “Probably every Alzheimer’s caregiver will tell you that there’s that different part of the brain that strikes up when a Frank Sinatra or Nancy Wilson song would come on. That was so fun to watch. His face just transformed because of the memories locked somewhere in his brain.”

### TAKING CHARGE

During the first year after Lee’s parents moved east, Bob was still in the early stages of his recovery, so she was unable to contribute much to her dad’s care. Her sisters picked up the slack until she could do more, and then all three played a supporting role while their mom acted as the primary caregiver.

Lee recalls how heroic her mother’s role seemed, in many ways echoing her parenting decades earlier. But eventually, she needed help. “When he got to a place where she really couldn’t care for him anymore—the round-robin of the same questions, helping get him dressed and stuff—

she got to a place where it was beyond reckoning. And yet as a dutiful, loving wife, she could not bring herself to say, ‘I can’t do this anymore, girls.’ Because I think that felt like a betrayal of everything—her wedding vows, what a wife is supposed to do.”

When the stress of caregiving began to manifest in physical symptoms for Terry, her daughters stepped in to make the difficult decision to move their dad into assisted living. “I think she, as the caregiver, was kind of frozen for all the right reasons, for love,” Lee says. “You don’t want to be the one who says he should now



“Flipping through the photos of his past and our life together was so nice because it could remind him in some small, flickering way of who he had been.”

go into memory care. This is where her girls could take the burden off her.”

## TWO SIDES OF THE COIN

At times during her father’s illness, Lee felt like she was caught in the middle of two very different caregiving scenarios. She recalls, “We’d all be together in the summers, and it would be so interesting because I got to compare caregiving in a situation with my husband, where he was getting better and moving toward a good outcome, and then the one with my father, the expected one I guess at the end of life, where it was only going to a bad outcome.

“I mean, recovering from a brain injury is a long, slow heal, but everything was coming back together. So, with one person I knew I only had a few years left, and the other I hoped I had a lot of years but was still vigilant about everything he needed to do to stay healthy, keep healing. It was a lot.”

That doesn’t mean the family’s times together were always somber. “There were humorous moments, too, because my dad would not hear things that I would say, and I’d have to say them twice,” Lee remembers. “Then Bob wouldn’t hear things because he’d lost some hearing in the bomb blast. And I have a daughter who’s hearing impaired, so I would say things twice to her. There were moments when I thought, ‘I am going to lose my mind!’ [laughs] I’m going to tape-record everything and just play it back for everybody and that will have to be good enough.”

## STAYING GROUNDED

The ability to laugh at life’s absurdities helped get Lee through her ordeals. In time, Bob recovered from his injuries, and the pair started the Bob Woodruff Foundation, which has invested millions of dollars in programs to help injured veterans, their families and caregivers.

But that’s not to say things were easy. “I don’t want to give the impression that I was just sailing on through and everything was great. I had some really low moments. I’m really honest and very intentional talking about mental health and mental wellness. I went on Paxil just to stay above water for myself,” she admits. “The last thing I ever want to do is be some kind of caregiving model for anybody else. It was the hardest thing I’ve ever done.”

She emphasizes the need for caregivers to defy the deeply held Americanism that we should pull ourselves up by our bootstraps. Ask for help, she urges. “Just accept that

if you aren’t getting the small breaks that you need, or you aren’t able to see the sun through the trees, then that’s going to have consequences for everyone around you.”

## LETTING GO

Her own experience as a caregiver, as well as her mother’s, made her more empathic, Lee says. “You’re just more attuned when you’ve been through something like that. You see more of the world around you in a different way.” However, she admits that her worldview has also been affected negatively. “You’re tuned in to other people and what they’re going through, but you’re also tuned in to everything that can go wrong in ways that you continually have to fight against.”

And so, when Bob and the couple’s son, Mack, were recently filming *Rogue Trip*, a Disney Plus series in which they share adventures in dramatic locales around the globe, Lee put the potential dangers out of her mind. In any case, she says, “I think there’s only so much preparation you can do. I think that accidents and bad things happen, and you can be the person in the seat belt, do everything right. So, I don’t ever want that worldview to circumscribe my children or my husband and I try not to let it circumscribe me.”

That attitude applies to end-of-life planning, too. Lee’s parents got their affairs in order before her dad’s Alzheimer’s disease had progressed too far, yet his death was difficult for his daughters. But even though no one can perfectly orchestrate their final years or moments, she encourages families to have those conversations.

“I’m continually amazed at our cultural inability to talk about something that is the endcap of the beginning of life,” she says. “It’s like it’s a shameful thing. Hopefully as the generations tick on, there will be less of that.”

As a public speaker, Lee often shares her unique story.



# Where to Go for Care: Understanding

FROM ON-CALL SERVICES TO HELP YOU STAY AT HOME TO THE COMPREHENSIVE CARE AT A NURSING HOME, CONSIDER LONG-TERM CARE BEFORE YOU NEED IT.

**A**nyone who's played chess knows that smart players plot a few moves in advance. Your long-term health care and housing are no game, but the same concept applies: Thinking ahead pays off.

Most people ages 65 and older will need long-term care services at some point in their lives. Exploring your options early means you can choose places that support all your needs and values, across the board.

## HOME CARE:



Stay Where You Are, with Some Help

They call it “home sweet home” for a reason. It's normal to want to stay in your abode as long as you can.

To make aging in place possible, family members who live with or near you can act as formal or informal caregivers. Modifying your home—say, adding grab bars or ramps—can improve safety. Support services that may make it easier to maintain the same address include:

- Home health care, where providers like nurses or physical therapists come to you
- Help with cooking, cleaning and other household tasks
- Transportation
- Hospice, which supports you at the end of life

Some services are covered by Medicare or other insurance. Others may be available for free or at a low cost from volunteer or community agencies. Still, staying home can cost more than alternate arrangements, and might not be possible depending on your health.



## ASSISTED LIVING:

Just the Right Amount of Aid

You may reach a point where some daily tasks—from cooking and cleaning to dressing and bathing—aren't easy to manage on your own. But you might not require around-the-clock care. Assisted living facilities offer support where you need it, with as much independence as possible.

Some such facilities are relatively simple, homelike structures. Others are larger and more luxe, with private rooms or apartments in addition to shared spaces. Specialized memory-care homes cater to people with Alzheimer's disease or other types of dementia. With thousands of these facilities around the country, there's an option to match nearly every preference, need and budget.

Assisted living facilities are regulated by the state, not the federal government, and offer fewer services than nursing homes. They typically cost less, too. However, the charges (often due monthly) are not usually covered by insurance.



## NURSING HOME:

A Complete Care Solution

Modern nursing homes operate similarly to a high-quality hospital. They offer comprehensive care to adults, about half of whom are ages 85 and older. Most residents need

# Your Options

By Cindy Kuzma; Edited by  
Bernard A. Krooks, JD, CPA, LL.M, CELA

help with several activities of daily living, as well as support for physical or mental illnesses or disabilities.

A nursing home may be a shorter-term option when you need rehab after a surgery or an illness. In addition to skilled nursing, many offer medical services like wound care and physical therapy on site. It's also a common setting for end-of-life care.

Nursing homes are stereotyped as places where older adults are abandoned. In many cases, that's far from the truth. Family members are often involved in care and visit regularly.

Most people stay about a year. Nursing homes tend to cost more than other options, averaging \$100,000 per year. Public or private insurance may cover some of or all these expenses.

## RETIREMENT COMMUNITY:



### Meeting Changing Needs

Continuing care retirement communities combine many of these elements into one campus or location. You'll typically move into an individual home or apartment on site while you're healthy enough to live on your own.

As your needs shift, you'll add on support services. Then, you'll move into an assisted living facility or nursing home in the same community. In some cases, couples can stay in an independent living unit even if one partner needs medical care.

These stepwise services usually come with a onetime entrance fee. This might be nonrefundable. From there, you'll pay a monthly fee based on the space or services you utilize.

## MAKE YOUR WISHES KNOWN

Once you've plotted a strategy, the next step is to draft it up in legal documents. You can also appoint a trusted family member or friend to carry out these plans in the event you're unable to.

While it's often overwhelming to think about, this process—called advance care planning—represents a great gift to your loved ones, and yourself. Unlike a chess match with only one champion, this strategy avoids misunderstandings and second-guessing. Everyone comes out a winner.

For help locating long-term care options—along with the resources to pay for them—visit the Resource Locator from the Fisher Center for Alzheimer's Research Foundation at [ALZinfo.org/resource-locator](https://www.alzinfo.org/resource-locator).

*Bernard A. Krooks is managing partner of the law firm Littman Krooks LLP ([littmankrooks.com](https://www.littmankrooks.com)). A certified elder law attorney, he is a past president of the National Academy of Elder Law Attorneys and past president of the Special Needs Alliance.*

## WHEN YOUR LOVED ONE

# Won't Cooperate

What can a caregiver do when someone won't follow health advice?

By Lauren Arcuri

**I**t can be hard to be the caregiver of someone with Alzheimer's disease. Sometimes, people with Alzheimer's have trouble following medical advice. But eating well, being active and getting exercise will help them feel better. What can a caregiver do to help?

Alzheimer's disease can cause changes in personality and behavior, including getting upset, angry or worried more easily. Those with Alzheimer's may suffer from depression as well. And some can have difficulty with new things or changes in routine.

Coping with these personality changes can be difficult as a caregiver, especially when you want the person to follow lifestyle advice that you know will help them feel their best. Here are some tips to help.

### EXERCISE

- **Keep things simple.** When making suggestions about exercise to a person who has Alzheimer's, ask or say just one thing at a time and give them ample time to respond.
- **Buddy up.** Taking a walk together every day can help both of you stay healthy.
- **Try mini workouts.** It may be easier for the person to focus

on exercise for a short period of time. And this gives you some success to build on.

- **Focus on a routine.** If you can make exercise part of a daily routine, this may help. A routine will provide familiarity and help those with Alzheimer's feel more relaxed.
- **Don't argue.** Arguing or reasoning with a person with Alzheimer's disease can leave both of you frustrated and is unlikely to resolve the problem.
- **Use music, dancing or singing.** People with Alzheimer's often enjoy and respond to music. If you can, use such activities to help engage the person.

It's also fine to adapt and modify exercise, if needed. This may be helpful if the person with Alzheimer's has trouble with coordination or endurance, or if they suffer from depression or a general lack of interest in movement. Consider these tips:

- **Do simple chores together.** For example, try sweeping and dusting surfaces.
- **Use resistance or stretching bands.** You can buy these in sporting goods stores, most retail stores or online. Follow the included instructions.

- **Use household items.**

Things you have around the house, like soup cans, can be used as weights to build strength.

If depression seems significant, talk with their health care provider. There may be medications or other treatments that can help.

### NUTRITION

If the person you're caring for is having difficulty eating a balanced diet, it can be challenging to get them to change their habits. These tips may help:

- **Stock up on healthful foods.** Buy items like vegetables, fruits and whole grains. Choose foods that the person likes and can eat easily.
- **Offer choices.** Let them decide between two healthy items. For example, "Would you like sweet potatoes or salad?"
- **Opt for quick and easy.** Choose foods that are simple to prep and serve, like premade salads or baby carrots. Single-serving portions may help, too.
- **Make mealtime a social time.** Meals are



an opportunity for social interaction. Eat together as part of your routine. Keep the mood warm and happy. Give the person plenty of time to finish eating.

- **Follow a schedule.** Keep mealtimes consistent and familiar. Set a routine for meals that can be repeated.
- **Monitor for changes.** Forgetting to eat or forgetting to turn off the stove or oven can be signs that the person's Alzheimer's disease is

progressing and that they may need more help. Be sure to report these changes to their health care provider.

With some patience and understanding, caregivers can help someone with Alzheimer's follow diet and exercise recommendations. Modifying expectations and accepting things don't have to be perfect will help caregivers maintain their own mental health.

To find support and chat with others in the Alzheimer's disease community, visit [facebook.com/groups/alzheimersdementiasupport](https://www.facebook.com/groups/alzheimersdementiasupport).



# FOODS THAT HELP FIGHT *Inflammation*

**C**hronic inflammation. It's a common villain in a host of health problems—from heart disease, diabetes and obesity to cancer and dementia. And although all inflammation isn't bad—it's our body's natural response to infection or injury—it can damage healthy cells when the immune system misfires and begins to attack the body.

The good news is that we have the power to reduce chronic inflammation. Eating the right foods is one way to do so. By building your diet around these anti-inflammatory foods, you can protect your health.

## WHAT TO EAT

**Fish** contain inflammation-fighting omega-3 fatty acids. Among the best choices are salmon, albacore tuna, mackerel, herring, lake trout and sardines. The American Heart Association recommends eating two servings of nonfried fish every week.

**Nuts** are full of healthy fats that help combat inflammation. Good choices include walnuts, almonds, pistachios and pine nuts. Keep in mind that nuts are also packed with calories, so don't overdo it. A 1.5-ounce serving—about a handful—per day is plenty.

**Fruits and vegetables** are high in antioxidants, which support a healthy immune system and may decrease inflammation. Good choices include blueberries, blackberries, strawberries, cherries, spinach, kale, broccoli and carrots.

**Beans** contain anti-inflammatory and antioxidant substances. The best options include pinto, red kidney, black and garbanzo beans. Have at least a 1-cup serving twice a week.

**Whole grains** are another key part of a healthy anti-inflammatory diet. One caveat: Gluten—a protein found in wheat, barley and rye—may trigger



## Kale, Apple and Cucumber Salad

### Ingredients

- ½ lb. Tuscan kale (1 large bunch)
- 1 large apple, cored and diced
- 2 tbsp. fresh lemon juice, divided
- 1 small cucumber, diced
- 1 tbsp. extra-virgin olive oil
- 2 tbsp. honey
- ¼ tsp. sea salt

### Directions

Pull kale leaves from stalks. Discard stalks. Tear kale leaves into bite-sized pieces and place in a large bowl, then set aside. After dicing apple, toss with 1 tablespoon lemon juice. Add to kale. Add cucumbers. Pour remaining lemon juice, olive oil, honey and sea salt over vegetables and fruit mixture. Use clean hands



to toss salad and dressing together. Divide evenly among four bowls.

### Nutrition Information

Serves four; serving size is about 1¼ cups. Per serving: 128 calories; 4 g total fat (1 g saturated fat, 0 g trans fat); 0 mg cholesterol; 172 mg sodium; 24 g carbohydrate; 3 g fiber; 15 g sugars; 3 g protein

*Note: There are two main types of kale. Tuscan, or lacinato, kale has big, dark green leaves. You can also substitute with curly kale.*

inflammation in some people who are sensitive to it. Gluten-free whole grains include brown or wild rice, quinoa, buckwheat, and certified gluten-free oats or oatmeal.

### WHAT TO SKIP

Other foods have the opposite effect, fueling inflammation. Limit foods that contain:

- Saturated fat (such as red meat and cheese)

- Trans fat (such as many fast foods and processed snacks)
- Refined grains (such as white bread and white rice)
- Added sugars (such as sweets and sugary drinks)

When it comes to your health, you really are what you eat—and what you don't. An anti-inflammatory diet helps safeguard your well-being.



## Life Lessons

### Book helps children make sense of Alzheimer's disease.

*Who Will Hear Begonia?* is the story of two little girls struggling to understand their Nana's memory illness. When their attempts to get Nana to smile fail, the family realizes their beloved dachshund, Begonia, may hold the answer.

The topic is personal for author Bonny Gable, whose late mother, Emma White, lived with Alzheimer's disease for nearly 20 years. Seeing her granddaughters' confused reactions to visiting their great-grandma sowed the creative seed. "It was hard enough as an adult to see what was going on, understand it, comprehend it and deal with it," she says, "and it's even more so for children. So, I wanted to target that age group."

While the work is fictional, elements of the characters were inspired by Gable's own family—including the family dog. Gable has owned dachshunds throughout her life and used to take one to visit her mom at her care home.

A portion of the book's proceeds will benefit the Fisher Center for Alzheimer's Research Foundation.

**Written by Bonny Gable and illustrated by Cleo Stephenson, *Who Will Hear Begonia?* is available from White Orchard Press ([whiteorchardpress.com/books](http://whiteorchardpress.com/books)) and Amazon. For nonprofit or volume discounts, email [info@whiteorchardpress.com](mailto:info@whiteorchardpress.com).**

# START YOUR WALKING PROGRAM OFF ON THE RIGHT FOOT

**A** longer, healthier life could be closer than you think—maybe within walking distance. The average person takes about 2,500 to 5,000 steps per day. Add more by starting a regular exercise walking program, and you could:

- Boost your energy, stamina and mood
- Strengthen your bones and muscles
- Burn more calories
- Improve your blood pressure and cholesterol levels
- Lower your risk for heart disease, stroke and type 2 diabetes
- Prevent osteoporosis

Here's how to take to the sidewalk, street or path to improve your fitness and your health.

## READY, SET ...

Because it's a relatively gentle exercise, walking is safe for people with most health conditions, including arthritis and back pain. In fact, it can usually improve them. But if you have a chronic condition, discuss your new routine with your health care provider. They can tell you whether you need to take any special precautions.

Once you have the green light, take time to plan and prepare. You'll want to decide:

- **When to walk.** Track your routine for a week to determine when walk breaks would fit into your schedule. Common times include first thing in the morning, at lunch or right after work.
- **Where to walk.** Locate a safe route along well-traveled streets. You might also consider where you could walk when the weather is bad. A walk around a shopping mall or even your home could provide an effective workout—especially if you include some stairs.
- **Whom to walk with.** A partner or group can keep you safe and motivated.
- **What to wear.** Choose comfortable, supportive shoes with breathable fabrics; a firm heel; and nonskid, flexible soles. Models designed for running or walking are usually best. Wear synthetic “wicking” clothes that keep you dry by drawing sweat away from your skin.

## WALK!

Aim to walk three or four days each week. Begin each workout with a warm-up, walking for five minutes at your normal speed. Then pick up the pace. Maintain proper form by:

- Keeping your head up, shoulders relaxed and abs engaged
- Pointing your toes forward
- Touching the ground with your heel first, then rolling your weight forward
- Letting your arms swing naturally

Start with 15 minutes or less of brisk walking before doing a five-minute cooldown. Add another five minutes of brisk walking every two weeks until you accumulate at least 150 minutes (2.5 hours) total per week. Track your progress and reward yourself for achieving new goals.



# FISHER CENTER Scientist Spotlight

Dr. Yashoda Krishna Sunkari

*Research Associate*

## HOMETOWN:

Yashoda was born and raised in Vemali, an Indian village of 1,500 people located in Gajapathinagaram, an administrative division of the district of Vizianagaram. Vemali is about 60 miles from Visakhapatnam, the largest city in Andhra Pradesh, one of India's 29 states. Situated in the southeastern coastal region, Andhra Pradesh has 49 million inhabitants and covers 62,925 square miles—somewhere between the size of New York State and Florida.

## EDUCATION:

Yashoda completed his education in India. He has a bachelor's degree from Andhra University, a master's degree in chemical science from Pondicherry University and a PhD in organic chemistry from the Central Drug Research Institute in Lucknow. While completing his doctorate, he worked on the development and synthesis of very complex and large molecules known as amide-linked RNAs, and sugar amino acid-based glycopeptide mimetics.

## FUN FACTS:

Yashoda loves the sport cricket. When he was younger, he could not concentrate on anything when his favorite player, Sachin Tendulkar, was on the field.

Since his childhood, New York City has been Yashoda's dream city. He is fascinated by the beautifully organized streets of Manhattan and enjoys walking them during his free time.

His home state of Andhra Pradesh is known as the "rice bowl of India" because it produces a large amount of the country's rice. This is because of a very large irrigation system that takes advantage of four large rivers, one of them called Krishna, like Yashoda Krishna himself.

## RESEARCH DISCOVERIES:

Yashoda joined the Fisher Center in December 2016 for his postdoctoral training. Over the past few years, as the Fisher Center was moving more and more toward the development of druglike molecules, several organic chemists were hired as more lab space was obtained specifically for chemistry purposes. Yashoda became key in developing an entirely new drug discovery platform based on the technology called "DNA encoded libraries" (or DELs). This platform is now fully functional and will considerably accelerate the process of drug development. Yashoda's role is to design and optimize new chemical reactions that can be performed in the presence of DNA and that are used to generate novel DELs. Yashoda and his Fisher Center colleagues have already developed a few of those libraries. His PhD work and experience were instrumental for the Fisher Center, and the similarities between his work on RNA and the present work on DNA gave Yashoda a strong conceptual and practical advantage.

**Thank you, Dr. Sunkari,**  
for your hard work every day  
in the quest to find a cure.

The exceptional work of Fisher Center's world-renowned scientists is bringing us closer to a cure for Alzheimer's disease. You can read more by visiting [ALZinfo.org/research](https://www.alzinfo.org/research).

# Brain-Boosting Puzzles

“Use it or lose it.” The message is simple. If you don’t use your muscles, they will no longer be as effective as they should be. Of course, the brain is not a muscle; however, it has recently come to light that “mental workouts,” such as solving crosswords and other puzzles, can help ward off Alzheimer’s. In these pages, we offer a variety of different types of puzzles that will work out your various skills involving memory, deduction, and letter manipulation, and, we hope, also provide you with a ton of fun!

(ANSWERS ON PAGE 31)

## MATCH THESE

Can you identify these film titles by filling the appropriate city into each one?

- |                                 |                 |
|---------------------------------|-----------------|
| 1. ___ “Is ___ Burning?”        | a. Detroit      |
| 2. ___ “Sleepless in ___”       | b. Shanghai     |
| 3. ___ “The Purple Rose of ___” | c. St. Louis    |
| 4. ___ “Flying Down to ___”     | d. Moscow       |
| 5. ___ “Doctor ___”             | e. Las Vegas    |
| 6. ___ “In ___”                 | f. Rio          |
| 7. ___ “The ___ Story”          | g. Philadelphia |
| 8. ___ “Moon Over ___”          | h. Bruges       |
| 9. ___ “Meet Me in ___”         | i. Miami        |
| 10. ___ “Leaving ___”           | j. Paris        |
| 11. ___ “___ on the Hudson”     | k. Seattle      |
| 12. ___ “___ Surprise”          | l. Cairo        |

## DROPLINE

Take the letters in the top half of each column below and distribute them in the blanks of the bottom half so that the letters spell out a thought from Kenichi Ohmae about navigating through life. The black squares are the spaces between words. One letter has been dropped in place to start you off.

N	T	W	I	E	G	E	H	I	R	D	T	R	E	D	N	O	S
R	O	R	H	N	L	P	D	D	R	D	E	I	I	O	B	E	E
T	W	I	S	N	H		A	I	E	E	C	T	N		T	H	A
		O	G				A	F			H				O		
R																	

## LEAPFROG

Here’s a list of companies named after founding partners — one company for each number. The letters of the two halves are in the correct order, but they overlap. All you have to do to find the place names is separate the letters.

**Example:** FAWERLGLSo — WELLS FARGO

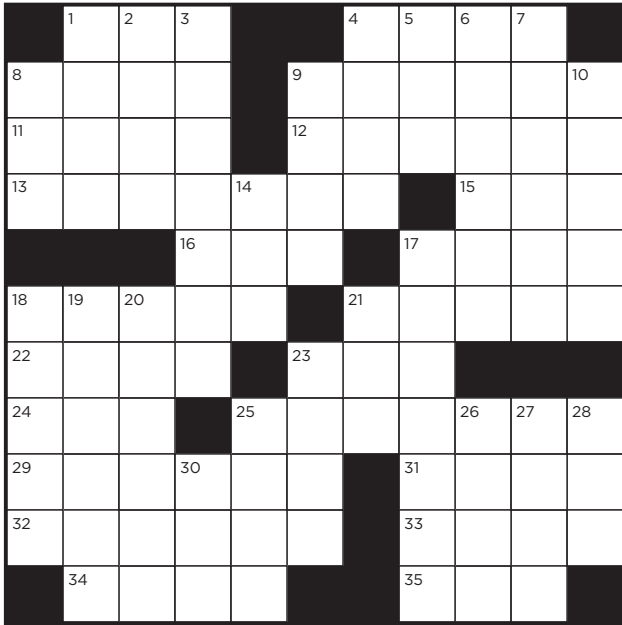
- |                     |       |
|---------------------|-------|
| 1. JODONEWS         | _____ |
| 2. RROOLYLCSE       | _____ |
| 3. BRAOBSBKIINNS    | _____ |
| 4. WISLHLEIRAWMISN  | _____ |
| 5. FPIRISCHEER      | _____ |
| 6. BPOIWETNSEY      | _____ |
| 7. PHEAWCLKEATR TD  | _____ |
| 8. BANUHSECUSEHR    | _____ |
| 9. DHA AVIRDL SOENY | _____ |



•VISIT US AT KAPPAPUZZLES.COM•

# BRAIN-BOOSTING CROSSWORDS

We have provided two crosswords here to sharpen your puzzle skills. Start with the one on the left, which is the easier puzzle. In this one we have provided solving aids, such as the number of words in multi-word entries. The puzzle on the right is a medium level puzzle and those solving aids are not provided. Have fun testing your knowledge while doing something that's good for you!



## ACROSS

1. Scientist's rm.
4. Close forcefully
8. Toddler word
9. Type of ape
11. General Bradley
12. Within
13. Dues payers
15. Last mo.
16. Every bit
17. Last name in Champagne Music
18. Pier
21. Organizing tools
22. "Arrivederci, \_\_\_\_\_"
23. Cartoonist Keane
24. \_\_\_\_\_ glance (2 wds.)
25. Sold
29. Treater of leather
31. Roof edge
32. Concealing
33. Fruit rind
34. Talk wildly
35. Address book abbr.

## DOWN

1. Hobbled
2. Comic Sandler
3. Santa \_\_\_\_\_, California
4. They're confessed at confession
5. Pounds (abbr.)
6. Remains
7. Early car (2 wds.)
8. Perignon
9. Young woman
10. Giraffes' features
14. Will Ferrell Christmas movie
17. Most savage
18. "The Grapes of \_\_\_\_\_"
19. Braggadocio (2 wds.)
20. Blake of "Gunsmoke"
21. Jar cover
23. Mass of floating ice
25. Cooped (up)
26. Erie, e.g.
27. Devilish
28. Lair
30. Diarist Anaïs

## ACROSS

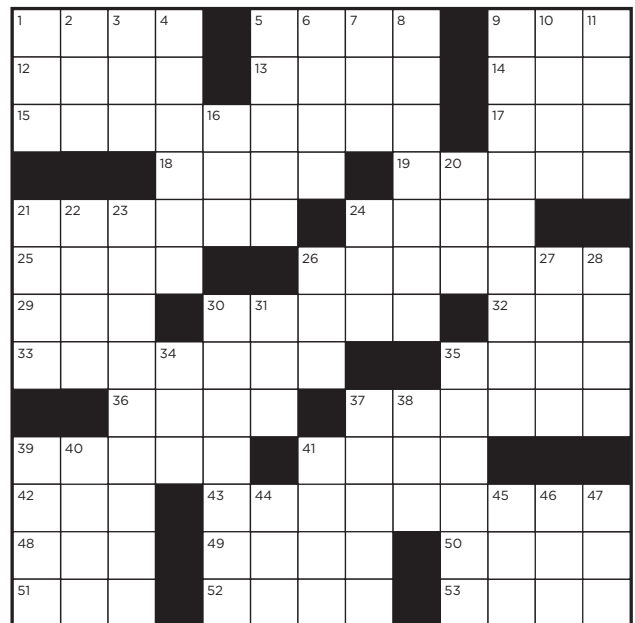
1. Difficult
5. Rice-a- \_\_\_\_\_
9. Exclude
12. Pennsylvania's third-largest city
13. \_\_\_\_\_ -Neisse Line
14. Bullfight shout
15. Runt
17. Squeezing snake
18. Crops
19. Cossack's weapon
21. Bombshell Marilyn
24. Madonna's daughter's nickname
25. Follow rules
26. Comments
29. No. of weeks per annum
30. Stockholm resident
32. Unassembled purchase
33. Ambassadors
35. Greek letter
36. Put on the payroll
37. Country carriage
39. Paloma's papa
41. Anderson of "The Mulets"
42. Long follower, in a tale
43. Spot for a scenic seat
48. Lightning McQueen, e.g.
49. Aquatic bird
50. Auctioneer's last word
51. Sounds of hesitation
52. Transmit
53. Germ

## DOWN

1. Kind of cat
2. \_\_\_\_\_ Ben Canaan ("Exodus" role)

## 3. Tear

4. Perceive a distant object
5. Driver's choice
6. Poems by Horace
7. Gp. that provides patronage to painters
8. Annoying
9. Long-time host of "The Price Is Right"
10. \_\_\_\_\_ vera
11. Close
16. Status \_\_\_\_\_
20. Birmingham's st.
21. Richard of "Night Court"
22. Drama award
23. Flintstones and Rubbles, e.g.
24. Wielded a baton
26. Legal point
27. Sky sight in March
28. Remain
30. Disco lights
31. Itsy-bitsy
34. Feel crummy
35. Fetches
37. Did a spring farming job
38. Cycle or verse prefix
39. Work off nervous energy
40. Algae product
41. A Redgrave
44. "You \_\_\_\_\_ So Beautiful"
45. Forest female
46. Billfold bill
47. Took to the altar



# BRAIN-BOOSTING PUZZLES

## HIDDEN-MESSAGE WORD-FIND

Cars are a big part of American life, but there are more than a few drawbacks to that. Circle the words below, and the unused letters will spell out an apt sentiment.

You are looking for a 55-letter phrase.

ALTERNATOR	OIL FILTER	T	H	S	E	R	I	T	D	O	E	B	T	B	I
BEARINGS	RADIATOR	G	G	E	S	T	L	I	I	N	R	R	E	A	E
BRAKES	REAR AXLE	D	F	I	N	E	O	L	A	A	A	U	T	L	O
CLUTCH	SOLENOID	S	A	U	B	N	F	F	K	N	E	E	S	T	T
FAN BELT	TIE RODS	W	Y	N	E	I	I	E	S	S	T	L	G	E	H
FLYWHEEL	TIMING CHAIN	E	A	L	L	L	S	M	R	E	C	X	N	R	L
FUEL INJECTOR	TIRES	F	O	T	I	M	I	N	G	C	H	A	I	N	E
FUEL PUMP	TRANSMISSION	S	E	A	E	S	U	N	S	L	L	R	R	A	E
MANIFOLD	WATER PUMP	R	O	F	S	R	H	F	J	D	D	A	A	T	H
MUFFLER		E	F	I	E	C	P	C	F	E	O	E	E	O	W
		T	O	I	T	V	E	U	D	L	C	R	B	R	Y
		N	F	U	E	L	P	U	M	P	E	T	E	R	L
		D	L	O	F	I	N	A	M	P	I	R	O	I	F
		C	V	E	R	S	R	O	T	A	I	D	A	R	T

## SUDOKU

To complete the puzzle below, fill in the squares so that each digit 1 through 9 will appear exactly once in each row, in each column, and in each enclosed nine-unit block.

3		7				4	8	
			3					
			4	5	7			1
	2	5		9		8		
		3	7		8	5		
		4		3		9	6	
1			5	2	4			
					6			
	4	9				2		6



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# PUZZLES ANSWERS

## Match These

1j, 2k, 3l, 4f, 5a, 6h, 7g, 8i, 9c, 10e, 11d, 12b.

## Dropline

Rowing harder doesn't help if the boat is headed in the wrong direction.

## Leapfrog

1. Dow Jones
2. Rolls-Royce
3. Baskin-Robbins
4. Sherwin-Williams
5. Fisher-Price
6. Pitney-Bowes
7. Hewlett-Packard
8. Anheuser-Busch
9. Harley-Davidson.

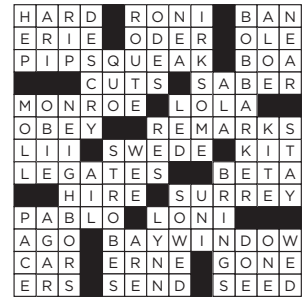
## Hidden Message

The biggest need in auto safety is the recall of defective drivers.

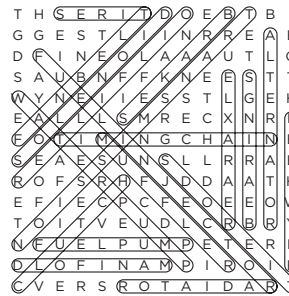
## Crossword 1



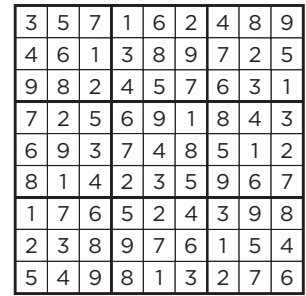
## Crossword 2



## Word-Search



## Sudoku



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