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Spring 2017

Peter Gallagher

Profile of the actor and advocate for Alzheimer's research

MAJOR Fisher Center

Scientists uncover important pathway in the development of Alzheimer's

BRYAN CRANSTON

We talk with the TV and film star about his career and advocacy on behalf of Alzheimer's

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Actor/writer/director/producer Bryan Cranston

FEATURES:

Avoiding Unnecessary Hospitalizations

Taking some preventive steps can help a caregiver keep an Alzheimer's patient out of the hospital.

Beyond the Grasp of Memory

Loretta Veney talks about her book and providing care for her mother.

Playing the Parts

Bryan Cranston talks about his career, his mother and the importance of Alzheimer's research.

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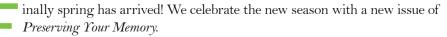
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Springin' for Good Weather and Promising Alzheimer's Research



Alzheimer's prevention may not be too far away. The Fisher Center for Alzheimer's Research announced a new discovery about a key pathway in the development of Alzheimer's disease (page 14), one that could lead to new preventative treatments and possibly even a cure.



Kent L. Karosen

This issue focuses on personal stories of those caring for people with Alzheimer's. Our cover story is a profile of actor Peter Gallagher (page 18), who lost his mother to Alzheimer's disease. Peter is a major advocate for more research funding.

We also have a special bonus in this issue: an interview with actor/writer/director/producer Bryan Cranston, the star of *Breaking Bad* and much more (page 16). Bryan also lost his mother to Alzheimer's.

A significant number of Alzheimer's patients wind up in the hospital for what are often preventable causes. We take a look at how to help keep the person you care for out of the hospital as much as possible (page 8).

Author Loretta Veney wrote a powerful book about her mother's battle with Alzheimer's, and we talked with her about her book and her caregiving for her mother (page 10).

May spring inspire you! We hope this issue of *Preserving Your Memory* also inspires you to contribute to find a cure for Alzheimer's disease.

We would love to hear your stories about your connection to Alzheimer's and any helpful advice to other caregivers. Please feel free to get in touch with the Foundation by emailing info@alzinfo.org.

Sincerely,

Kent L. Karosen President & CEO

Please send your tips, stories or questions to:

.

Fisher Center for Alzheimer's Research Foundation 110 East 42nd Street, 16th Floor New York, NY 10017

or by e-mail to info@alzinfo.org

We can end Alzheimer's.

About the Fisher Center for Alzheimer's Research Foundation

Since 1995, the Fisher Center Foundation, a 501(c)(3) nonprofit organization, has been providing hope and help to the public by funding research into the cause, care, and cure of Alzheimer's disease and creating much needed educational programs. We are one of the world's largest research teams leading the battle against Alzheimer's disease. Our team of internationally renowned scientists, under the direction of Nobel Laureate Dr. Paul Greengard, has been at the forefront of research that has provided a conceptual framework for modern-day investigations into Alzheimer's disease. The Fisher Center Foundation has earned Charity Navigator's highest 4-Star rating six years in a row for fiscal management and commitment to accountability and transparency. For more information or to make a donation, go to **www.ALZinfo.org**.

The LATEST NEWS on Alzheimer's Disease and Brain Health

Slow Walking May Predict Alzheimer's Onset

Brain changes typical of Alzheimer's disease may also cause subtle impairments in someone's ability to walk, according to a study in the journal *Neurology*. The study, of 128 elderly men and women with memory complaints, found that those who walked the slowest were at increased risk of developing Alzheimer's disease.

"It's possible that having subtle walking disturbances in addition to memory concerns may signal Alzheimer's disease," said the study's lead author, Natalia del Campo, of the University Hospital Toulouse in France.

Participants were asked to walk 4 meters, or about 13 feet, at their customary pace. On average, it took them about 42 seconds to complete that distance within the normal range. But, the researchers found, the slowest walkers also tended to have the greatest buildup in the brain of beta-amyloid, a toxic protein that is a hallmark of Alzheimer's.

The findings bolster earlier research showing that gait problems may be linked to Alzheimer's disease



An Alzheimer's disease test that gauges a person's ability to detect and recall specific odors may soon be available in doctor's offices, two new studies suggest.

Alzheimer's affects parts of the brain critical for recognizing odors, and the ability to detect particular smells may precede memory loss by years. A low cost "sniff" test could make Alzheimer's easier to diagnose at its earliest stages, when treatments may be most effective.

In one study, published in *Annals of Neurology*, researchers at Massachusetts General Hospital in Boston asked 183 visitors to the hospital's memory clinic to identify 10 different scents: menthol, clove, leather, strawberry, lilac, pineapple, smoke, soap, grape and lemon. In another part of the test, they were asked to identify 10 additional odors: banana, garlic, cherry, baby powder, grass, fruit punch, peach, chocolate, dirt and orange, and asked if the smell had been included in the earlier test.



and other forms of dementia. But many disorders can impair the ability to walk, including heart disease and arthritis. Dementia may be just one of many problems tied to difficulty walking.

In a second study, in the *Journal of Alzheimer's Disease*, researchers at the Perelman School of Medicine at the University of Pennsylvania gave 728 older men and women the Sniffin' Sticks Odor Identification Test, which requires people to identify 16 different smells.

Through these and other scent and memory tests, the researchers were able to identify with good accuracy which participants had been given a diagnosis of Alzheimer's; which had mild cognitive impairment, a form of memory loss that often precedes Alzheimer's; and which had a normal range of memory.

It's important to note that impaired smell can result from a variety of causes, including normal aging and viral illnesses, and many people with Alzheimer's retain their sense of smell, so a sniff test is by no means foolproof.

Mild Behavioral Impairment May Be an Early Sign of Alzheimer's

Most people think of memory loss when they think of Alzheimer's disease. But a proposed new diagnostic tool uses a checklist of personality and behavioral changes that may identify the earliest stages of Alzheimer's. Among the questions included on the checklist:

- Has the person lost interest in friends, family or home activities?
- Is he or she less likely to initiate or maintain conversations?
- Has the person become agitated, aggressive, irritable or temperamental?
- Is he or she more impulsive?
- Is there a change in eating behaviors?
- Does the person hoard objects when she or he didn't used to?
- Has the person become suspicious about the intentions or motives of others?
- Does the person now talk to strangers as if familiar, or intrude on their activities?

Answering "yes" to these questions or exhibiting other changes in behavior that last at least six months, the researchers say, may be an early indication of Alzheimer's disease. It is important to consult a doctor to rule out other possible causes, such as depression, as well.





Air Pollution Tied to Alzheimer's Risk

Toxic particles of air pollution linked to Alzheimer's disease have been found in "abundant" quantities in the brain, British researchers report. The finding raises the possibility that environmental pollutants may play a role in dementia onset.

The toxins, called magnetite nanospheres, are dispelled from the engines and brakes of cars, trucks and trains and are abundant in the airborne pollution found in cities around the world, especially next to busy roads. The scientists speculate that the particles may be inhaled through the nose and because they are so small—less than 1/500th the width of a human hair—they may travel via the olfactory nerve into the brain. The tiny particles were found embedded in all the brains tested, and the concentration tended to increase with age.

"Our results indicate that magnetite nanoparticles in the atmosphere can enter the human brain, where they might pose a risk to human health, including conditions such as Alzheimer's disease," said study author Barbara Maher, of the University of Lancaster Environment Center in Britain. The findings were published in the *Proceedings of the National Academy of Sciences.*

> + For more information:

Visit **www.ALZinfo.org** often for up-to-date and expert-reviewed scientific news.

Avoiding Unnecessary Hospitalizations

Insights for caregivers of people with Alzheimer's disease

By Mary Adam Thomas

A nyone who has cared for a person with cognitive impairment knows the importance of routine. For people with Alzheimer's disease (AD) and other forms of dementia, changes can be confusing and even frightening. Unfamiliar places, sounds and faces are often difficult for patients to cope with, which places additional stress on caregivers who are trying to maintain a sense of calm and order on behalf of those they care for.

Given the constant flurry of people and machines, there are few settings more potentially bewildering to a cognitively impaired person than a hospital. Still, according to a recent study, a disproportionate number of people with memory loss are being hospitalized for conditions that can, in most cases, be managed, treated and even prevented elsewhere.

Data Points

The study was led by Pei-Jung Lin, Ph.D., an assistant professor of medicine at Tufts University School of Medicine. Dr. Lin and her colleagues found that individuals with AD and related disorders are hospitalized more frequently than other seniors not suffering from cognitive impairment. Even more problematic is the fact that these patients are often hospitalized unnecessarily.

The researchers studied the Medicare records of 2.7 million people, all of whom had been diagnosed with AD or another form of dementia. Of those people, more than one in 10 of them were admitted at least once in a one-year period for something that was classified as an "avoidable hospitalization."

Finding Answers

Of course, caregivers should never prevent their loved ones from going to the hospital if the situation warrants it. However, certain health conditions are better managed at home and others are actually preventable by avoiding the hospital altogether. Here are some answers to questions caregivers might have about this tricky topic:

Q: What are AD patients being unnecessarily hospitalized for?

A: Many of the conditions for which AD patients are hospitalized are things that can be well managed and even treated in the home or at a residential care facility. Among the cases studied by Dr. Lin's team, people were most commonly hospitalized for a fairly even split between chronic and acute conditions. They included complications of diabetes, cardiovascular diseases and respiratory conditions (all chronic conditions), along with bacterial pneumonia, urinary tract infections and dehydration (acute conditions).

Q: Is it always better to avoid hospitalization?

A: Again, caregivers who have serious concerns about the health or safety of their loved ones should seek immediate medical attention and allow for hospitalization if it is deemed necessary by healthcare professionals. But when health conditions can be managed at home—or prevented from developing in the first place—it's typically better for the patient to stay away from the hospital.

Q: Why do so many AD patients get admitted to the hospital with other health concerns?

A: An estimated 75 percent of people suffering from AD have what are known as "coexisting conditions." That means that in addition to dealing with memory loss, they're also living with other medical issues. But managing health concerns can be a complicated business, even in the best of circumstances. Figuring out proper medication dosages, maintaining athome monitoring schedules and staying on top of self-care requirements is a big job. Problems often arise when a person with compromised cognitive abilities is responsible—in full or in part—for managing those health regimens. When coexisting conditions aren't well managed, it's easy to see how they can turn into situations that require more intervention.

Q: What are the downsides to being hospitalized?

A: In addition to being potentially confusing, hospitals can actually expose AD patients to additional health risks. Hospital-acquired infections, for example, are an unfortunately common occurrence. (According to the Centers for Disease Control and Prevention, an estimated 1.7 million people contract hospitalacquired infections in the United States each year.) Hospitalization can also be extremely expensive. In the year of Dr. Lin's study, avoidable hospital stays approached an estimated total of \$2.6 billion in Medicare bills. Depending on people's health coverage, some of those costs end up being paid directly by patients and their caregivers. Finally, and perhaps most concerning of all, hospitalizations can actually trigger downward spirals for patients. In extreme cases, the combination of medical interventions and emotional stress can negatively impact an AD patient's overall health.

Q: How can caregivers help protect their loved ones from avoidable hospitalizations?

- A: Every patient is different, so there is no one set of guidelines that will guard against all unnecessary hospital admissions among AD patients. However, there are ways to address the most common causes of hospitalization among individuals with cognitive impairment. Whether their loved ones live alone, at home with family or in residential care facilities, caregivers should make sure these bases are covered:
 - Manage their medications. Medicine regimens are usually difficult for AD patients to keep track of on their own. Caregivers should make sure their loved ones are taking

everything as prescribed both for prescription and over-the-counter medications. Pill boxes, calendar reminders and pre-set alarms can all be helpful.

- Maintain their at-home monitoring regimens. Cardiovascular concerns and diabetes were among the conditions most commonly seen among the hospitalized AD patients included in Dr. Lin's study. Patients dealing with such diagnoses are typically advised to regularly monitor blood pressure, blood sugar and other health indicators at home. Needless to say, these are the types of procedures that can be hard to stay on top of when memory loss is a factor. To keep such conditions in check and keep the people with Alzheimer's whom they're caring for out of the hospital, caregivers can step in to lend a hand when it's time to conduct at-home health checks.
- Keep them hydrated. Sometimes, keeping a person out of the hospital is as easy as keeping their water glasses full. Even healthy seniors are prone to dehydration, and individuals with dementia have a more difficult time remembering to give their bodies the necessary fluids. Proper hydration benefits all the body's systems and helps stave off urinary tract infections, as well as other health conditions.
- Stay current on their vaccinations. Caregivers should ensure that their loved ones are up to date on any scheduled shots, including vaccinations for pneumonia and seasonal flu.
- Engage their doctors. Patients should see healthcare providers regularly to ensure their coexisting conditions are well managed. And caregivers should make sure that the doctors who see their patients are made aware of whatever cognitive issues are present, including any declines that have occurred since their last visits. That way, caregivers and healthcare providers can work together to advocate for the patients.

Predictable routines are critical when it comes to living with memory loss. Just as they benefit patients, routines also serve the people monitoring their loved ones' health and safety. Keeping a watchful eye and being proactive are fundamental to the caregiving role. These same strategies can also help keep AD patients away from the hospital for manageable and preventable conditions.

'Beyond the Grasp of Memory'

Loretta Veney's book documents her life with her mother, who has dementia.

By Karen Shugart

D oris Woodward no longer remembers her daughter. "She rarely talks at this point," says Loretta Veney. "She'll say uh-hmm or yes or thank you, but when people say, 'Who is this person with you?' she'll say, 'That's a very nice person.' That's my name at the moment—a very nice person."

The realization hit Veney hard. In the memoir she wrote, *Being My Mom's Mom: A Journey Through Dementia from a Daughter's Perspective*, Veney recalls dealing with the reality that her mom would someday forget those she loved most. <text><text><image><image>

"It's a selfish thought," she writes. "I *never* want to think that I am forgettable. Yet, when it comes to dementia,

everything can be and *will* be beyond the grasp of memory." Veney self-published the book, which she estimates has sold about 7,000 copies, in part because she wanted to tell the story of growing up with her mom in Washington, D.C. She also wanted to address what she felt was a dearth of information on the real-life experiences of caregivers, particularly in the African-American community. When she contacted churches to see what support or discussion groups might be available, she found few people wanted to talk about it.

"They'd say, 'We don't have that problem here," she recalled. "And you know there's probably two or three people who have it sitting in the front row."

Starting the Conversation

Since then, Veney said she has sensed a growing openness to discussing dementia. *Being My Mom's Mom* has been picked up by several assisted-living companies, who offer the book as an important resource for families dealing with a loved one's cognitive decline.

A security consultant, Veney has found a dual career as an author and frequent public speaker, offering humor, guidance and support to a variety of audiences. In *Being My Mom's Mom*, Veney lays out with exuberance and warmth suggestions on dealing with the changes brought on by dementia. Chief among her recommendations are patience—how to cultivate, value and preserve it.

When her mother was diagnosed at age 77, there was never any doubt that Veney would be her mom's caregiver. "My sister had no patience," she recalled, laughing. "Even as a young kid, I just kind of went with the flow. I'm pretty laid back."

Learning Self-Talk

Still, the changes in her mom challenged her. Veney learned to do a lot of counting to 10. She began giving herself pep talks before visiting her mom.

"I talk to myself for a couple of minutes. 'This week, don't let that get to you,'" she will tell herself.

Particularly challenging were the questions her mom would ask over and over, having forgotten Veney



had answered that very question just seconds prior. "Do I think in my head, 'Please, God, don't say that again?' Yes," she admitted. Still, she's proud she hasn't lost patience with her mom yet.

Inspiring Others

In her book, she described how a stranger had approached her after Veney and her mom had struggled in a cashier's line—Woodward was asking questions over and over, and Veney was answering gamely.

"The woman was in tears and told me that she had learned so much from me observing the two of us, and that she was going to try and be more patient and loving with her own mother," Veney wrote. "It gladdened my heart to know that Mom and I could be an inspiration to someone else's family also struggling with this disease."

These days, her mom's words are few. Not many activities attract her interest. But Woodward still enjoys visiting McDonald's—a restaurant she never enjoyed before her diagnosis. Once, when Veney told her she could have an apple pie only after she ate her salad, Woodward told the cashier, "We've switched roles. I used to be her mom, and now she's mine."

She also still enjoys playing with Legos. "The Legos are now the only connection I have with my mother," Veney said. "Her eyes light up, and it's like she comes back. Somewhere in there, she remembers that me and her spent hours and hours using those Legos. As soon as we finish with them, she goes back to her little blank stare."

'Kind of a Blessing'

Veney's mom will be 88 years old in February. The fading memory that has brought Veney such sorrow has had its bittersweet blessings, she admitted. Veney has never told her mom that her sister, Renee, died from multiple sclerosis complications. Nor has she told her mom that Veney's husband, Tim, died unexpectedly in July after a series of strokes.

"I'm happy, frankly, that my mother doesn't remember him or me," she said. "She would just have a fit. She worshipped him! In some respects, it is kind of a blessing."

It's also a heart-rending curse. When her husband's death stunned her, Veney needed maternal comfort. After years of seeing her mom nearly every day, for the next week she couldn't bring herself to visit.

"I really needed my mother to give me a hug and say, 'It's going to be ok," she said. "I couldn't deal with losing him and going to see her, and her not able to help me."

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Ease your Mind

Addressing the two most common mental health struggles of caregivers.

Stress. Isolation. Worry. Grief. These are all common struggles for those who provide care for a person with Alzheimer's disease. Such issues are challenging enough on their own, but they can become even more problematic if they evolve into a chronic mental health problem. It's important to be aware of the unique mental and emotional challenges that arise from caregiving so that you can address these mental health conditions and prevent them from becoming ongoing.

Top Mental Health Concerns for Caregivers

The two most common mental health conditions faced by caregivers are depression and anxiety.

Depression

Those who are caregivers for people with Alzheimer's disease often experience a great deal of grief related to their loved one's disease, says Christina Irving, LCSW, family consultant with the Family Caregiver Alliance. The grief can then trigger depression.

"When caring for someone with dementia, there are a lot of feelings of loss," she says. "Not only are you slowly losing the person you're caring for, you're also experiencing a loss of certain dreams and ideas about your future and how you thought your life was going to go."

Irving says that isolation is also a big contributor to depression in caregivers. Spending most of your days alone with only the person you're caring for can make you more vulnerable than someone who has a lot of outside support.

Anxiety

There's a lot of uncertainty in the world of caregiving, so caregivers are often plagued with worries, says Irving. Nagging questions crop up on a daily basis, with the caregiver wondering:

- Am I doing this right?
- What's going to happen next?
- How is this going to progress?
- Can I handle this?
- What will I do when he/she gets worse?
- What will I do if he/she starts wandering?

The worries can seem endless, and as a result, chronic anxiety can take root.

Keeping Tabs on Your Mental Health

While depression and anxiety are common among caregivers, many are too overwhelmed with their caregiving tasks to recognize they may be struggling with low mood or excessive worry.

"The first challenge for caregivers is that they have to even notice that they're experiencing those feelings," says Irving. "A lot of times we'll hear caregivers say, 'I don't even have time to think about how I'm doing.' But just noticing what's different for them in their day-to-day life can help them start identifying underlying struggles."

Self-evaluation can be challenging for caregivers, however, because of their limited physical and mental downtime. So while a person who's not a caregiver may easily notice a change in his or her motivation level, for instance, a caregiver is less likely to observe such a change because he or she is constantly plugging forward.

There are other telltale signs, though. Irving says sleep is an important gauge. Any change in a person's sleep routine can be an indicator of depression or anxiety.

Mood changes can signal depression or anxiety, too. Such as:

- Inability to make decisions and keep moving forward
- Increased irritability and frustration
- Unhealthy coping strategies, such as alcohol or drug abuse
- Attitudes that are affecting the caregiver's well-being
- Attitudes that are affecting the loved one's well-being
- Thoughts of suicide, self-harm or harming others

An important reason for being alert to mental health struggles is that it can help you tackle challenges before they get out of hand.

"It's better to address these things sooner rather than later," says Irving. "You don't want to wait until you're totally drained and have nothing left. It's then much harder to pull yourself out of depression



Find Support Resources Near You

Family Caregiver Alliance is a nonprofit that supports family caregivers through care planning, family resources and national advocacy. Visit their website at caregiver.org to connect with resources near you. There you will also find information on topics such as self-care, depression and caregiving, and the emotional side effects of caregiving.

and anxiety. But if you're on guard and can identify things as they come up, it may not take as long to pull yourself back to what your regular mood is."

Finding Time for Mental Care

Identifying depression and anxiety is only the start. The next challenge for a caregiver is to adequately tackle the problem. "One of the biggest challenges caregivers face is a lack of time," says Irving. "If you tell a caregiver they need to take care of themselves, the first thing they're going to say is: 'When?'"

If you're a caregiver, you know you don't have a lot of time to yourself, so break self-care activities into really small chunks—sometimes just 5-10 minutes at a time—throughout the day. This may mean that instead of a long walk each evening, you take a short walk around the block a couple of times a day. Or instead of a leisurely visit with a friend, you set aside a few minutes for a phone call or an email.

In addition to time outdoors and chatting with friends, you may want to incorporate other self-care activities throughout the day, such as:

- Listening to music
- Reading
- Journaling
- Visiting an online support group

Look for anything you can fit into your day that will help your body and mind de-stress. Small chunks of self-care will add up.

Irving says support groups, in particular (both in-person and online), are vital to good mental health. "It's the kind of emotional support you only get from someone who knows what you're going through," she says.

If you find you're still depressed or anxious despite attempts at self-care, talk to your physician. If your mental health struggles are affecting your ability to care for your loved one, consider individual counseling in addition to self-care.

Fisher Center Scientists Spearhead Major Research Breakthrough

By Sam Gaines

n January, Fisher Center scientists published their findings from a study that looked further into the potential for the anti-cancer drug Gleevec to prevent the formation of beta-amyloid plaques, one of the hallmarks of Alzheimer's disease. The Fisher Center team, under the direction of Nobel laureate Dr. Paul Greengard and led by Dr. Bill Netzer and Dr. Victor Bustos, published their findings in the journal *Proceedings of the National Academy of Sciences.*

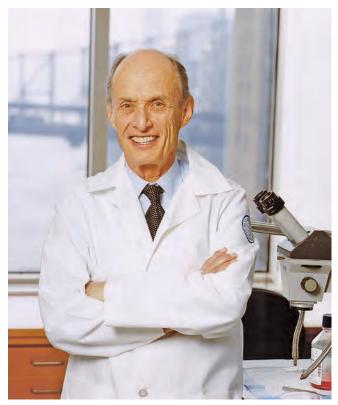
As part of this Fisher Center-funded research, scientists explored the link between a specific mutation that protects the elderly from developing Alzheimer's and the effect of Gleevec. The team also discovered that Gleevec and a related compound mimic the effects of these protective mutations, which means they can serve as models for the development of effective drugs in the fight against Alzheimer's disease.

Gleevec and Beta-Amyloid

The research itself was 10 years in the making, according to Dr. Bustos, the Senior Research Associate at the Fisher Center for Alzheimer's Research at The Rockefeller University in New York. He said that Dr. Netzer developed the hypothesis and carried out the experiments. "We had an article published in 2003 where Bill Netzer described the Abeta-lowering properties of Gleevec," says Dr. Bustos. That research identified Gleevec as a powerful anti-beta-amyloid agent, but not the mechanism by which this happens.

The first mechanism was uncovered in research published in *Nature* in 2010. In this new study, the Fisher Center scientists identified a second mechanism through which Gleevec lowers levels of beta-amyloid. "It makes Gleevec a more powerful drug, since it has two mechanisms for lowering betaamyloid," says Dr. Bustos.

Dr. Bustos explains that beta-amyloid, the peptide that accumulates in Alzheimer's patients' brains, comes from a larger compound or protein called amyloid precursor protein (APP). The cleavage of that larger protein by an enzyme known as BACE, as well as a second cleavage by a second enzyme called gammasecretase, produces beta-amyloid peptide. "Four approved drugs are currently used to treat Alzheimer's cognitive symptoms and these drugs produce modest, temporary benefits at best and do not prevent or delay worsening of the disease. This new finding opens the door for new treatments that may actually prevent Alzheimer's disease from developing, which would drastically decrease the number of people affected by the disease." —Dr. Paul Greengard



Nobel laureate Dr. Paul Greengard

"Gleevec appears to stimulate this new pathway by inhibiting BACE cleavage of the amyloid precursor protein," says Dr. Bustos. "We don't know yet the exact mechanism by which Gleevec is able to inhibit BACE cleavage."

A Closer Look at APP

A second key finding in this study involves the Gleevec mimicry of the APP mutation, Dr. Bustos says, which specifically precludes the formation of beta-amyloid. "People with this protective mutation have a lower incidence of Alzheimer's," he says.

One of the more interesting aspects of the research was the emergence of a fuller understanding of APP. "Our view of metabolism of APP was very simplistic heading into this study," says Dr. Bustos. "We now know it is much more complex."

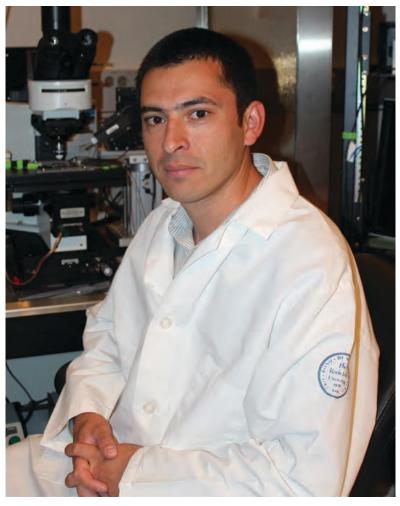
Next Steps

The next step is to find treatment pathways that can overcome Gleevec's most significant limitation in treating Alzheimer's disease. While it can enter the brain, Gleevec does not remain in the brain for long, so it's ineffective in reducing beta-amyloid in living brain tissue.

"That's why we can't use Gleevec itself to treat Alzheimer's," Dr. Bustos notes. "So now we're working on trying to make drugs that are derivative of Gleevec that can reach high brain concentrations and lower beta-amyloid."

Once those molecules are identified, a further question must be answered. "Let's say we do find the specific molecule," Dr. Bustos says. "How early do we start treatment in order to be effective?" The search for these therapeutic molecules and a determination of when to start treatment with the compounds derived from them will comprise the next stages of research for the Fisher team.

"Four approved drugs are currently used to treat Alzheimer's cognitive symptoms and these drugs produce modest, temporary benefits at best and do not prevent or delay worsening of the disease," said Dr. Paul Greengard, Director of the Fisher Center for Alzheimer's Research. "This new finding opens the



Dr. Victor Bustos

door for new treatments that may actually prevent Alzheimer's disease from developing, which would drastically decrease the number of people newly affected by the disease."

"As a direct result of the funding support we provide to the Fisher Center for Alzheimer's Research at The Rockefeller University, the lab has identified an effective treatment model for preventing Alzheimer's disease," said Kent L. Karosen, President and CEO of the Fisher Center for Alzheimer's Research Foundation. "Our lab at The Rockefeller University is on the cutting edge of science and we are pleased to fund breakthrough research in our quest to find a cure for Alzheimer's."

+ For more information:

Visit **www.ALZinfo.org** often for up-to-date and expert-reviewed scientific news.

www.ALZinfo.org

Playing the Parts

By Sam Gaines

For the many fans of his work, actor/director/writer/producer Bryan Cranston needs no introduction. His iconic performance as Walter White on AMC TV's seminal series, *Breaking Bad*, cemented his reputation as one of Hollywood's finest actors. He also played the role of caregiver to his mother, who died from Alzheimer's disease in August 2006.

Walter White. That name can send chills down the spines of fans of *Breaking Bad*, acknowledged by many critics as one of the greatest TV shows ever made. White, the cancer-stricken chemistry teacher who turns to a life of methamphetamine manufacturing to provide for his family, created a new dimension in the depiction of anti-heroes in TV dramas.

Bryan Cranston portrayed White and was honored with four Best Actor Emmys and many other accolades for his work. Cranston's performance in turn springboarded him to more film roles, including an Oscarnominated turn as the blacklisted scriptwriter Dalton Trumbo, and

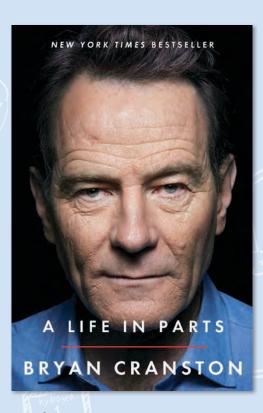
even more opportunities to wear his many hats.

In October 2016, Cranston published his critically hailed memoir, *A Life in Parts*, which recounts his journeys into a variety of fields and situations that ultimately culminated with his professional career. One of the chapters from the memoir details his mother's battle with Alzheimer's disease and Cranston's role as an emotional caregiver.

We talked with Bryan Cranston about the many roles he's played throughout his life and what he's learned along the way.

A Storyteller

Bryan Cranston is frequently sought out by young actors looking to break into the business. His advice to them? Unless you're absolutely burning with a desire to perform, find another line of work. "You're entering a



world that is highly competitive and overcrowded with interested people getting involved," Cranston says. "If you're looking at odds and opportunities, it's not a good career move. If you think you could be happy doing something else, then you should do it. There will never be a shortage of actors."

Cranston is currently deeply involved with a number of projects, all in different capacities, including his work as a producer and performance as an actor in a new Amazon Prime series, *Sneaky Pete.* "I like going back and forth," he says. "It's all interrelated. It's all under the umbrella of 'storyteller,' which is how I refer to myself."

Keeping a Busy Schedule

Cranston keeps a full schedule in his many roles, but he still finds time to take care of himself and his family. With the presence of Alzheimer's in his family history, he puts brain health near the top of his list. "I eat well, I try to get the normal amount of sleep, I don't drink very much, I like to exercise and keep active," he says. He adds crossword puzzles to the mix, too.

But it's his career and the creativity it demands that keeps his brain working hard. "In my work, developing ideas for stories and shows, I'm constantly thinking," he says. "[The brain is] a muscle, and it's great to be able to exercise that muscle and then rest it. The brain is an amazing thing. When you open it up and feed it with words and thoughts, then close it down for sleep, it's good. It will serve you well in the end."



Bryan Cranston as Walter White in AMC's Breaking Bad.

His Mother's Battle with Alzheimer's

Cranston's mother, Audrey, was diagnosed with Alzheimer's later in her life, when she was around 79 or 80, as he recalls. As he related to friends during a discussion about families, his mom had started to do things that piqued his attention. "Once we were going out to lunch, and she was going to get dressed," he recalls. "And she was gone a while. I was knocking on the door, and I saw that she had her pants over her head. I said 'Mom, what have we got here?' That was one of those things where I knew something was wrong." His friends confirmed his suspicions and suggested he get her tested. Those tests yielded a diagnosis of Alzheimer's.

Cranston and his family were involved in securing appropriate care for his mother after her diagnosis. They found the Motion Picture & Television Fund's Alzheimer's facility, Harry's Haven. "They had an opening, and because my mom had a show business background, she was accepted," he recalls.

The care provided at the facility was top-notch, and Cranston remains impressed with the work that Alzheimer's care providers do. "They are really compassionate about their jobs and what they are providing," he says. "I think a caregiver is the unsung hero. Those who do it for a living, I am so respectful and grateful for." Cranston and his family stayed in close contact with his mother through her final years, providing emotional care to complement what the staff at Harry's Haven provided for her. He sees an advantage in having someone outside the family provide physical care, when it is an option. "I think it's best to have someone who is detached to some degree because the emotional drain just compounds and exacerbates the task," he says. For those who provide physical and emotional care for family members with Alzheimer's, Cranston has the ultimate respect. "I am in awe of those who provide care and sustain it. It's a very difficult thing to do," he says.

Photo: Ursula Coyote/AMC

The Importance of Continued Research

For Cranston, research and caregiving form the spearhead in the battle against Alzheimer's. "The money needed to find the source, find the cause, is going to be a lifelong quest. We keep seeing breakthroughs, another clue that gets us closer to finding a cure," he says.

And we must keep pursuing the cure. "It's more important to have that dream, that agenda, of accomplishing a task than it is even if we never see it in our lifetime. But there is reason to believe that we could," he says. "What we have found we hand off to the next generation. There's no giving up. You just don't." •

For a Mother's Love

here's a special bond between mothers and sons that lasts a lifetime—and then some. For actor and longtime Alzheimer's advocate Peter Gallagher, it's one that has inspired him to tirelessly support fundraising and research efforts for a cure to the disease that debilitated his mother for nearly 20 years.

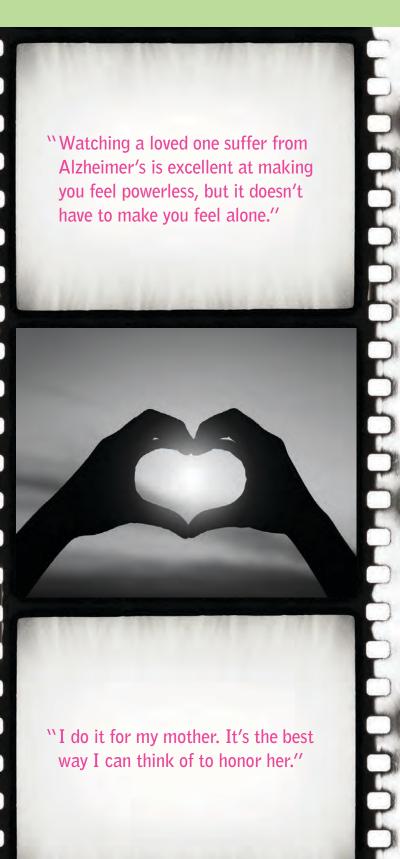
Nurturing Success

Best known for his roles in American Beauty (1999), The O.C. (2003) and While You Were Sleeping (1995), Peter Gallagher was born on August 19, 1955, in New York City and raised in Armonk, New York. His mother, Mary Ann, was a bacteriologist, and his father, Thomas Francis Gallagher, Jr., worked as an advertising executive. Gallagher graduated from Tufts University, where he was active in theater.

The youngest of three children, Gallagher developed a tight bond with his mother, due in part to being a late-in-life, surprise baby. With siblings who were much older when he came along, he became particularly close with his mom Mary Ann, even taking care of her at times when she battled depression. "When I was growing up, my mom was the one who talked to me, and I was sometimes able to give back," Gallagher has said.

Their close relationship continued over the years, and Gallagher gives his mom credit for much of his success. She was in the audience at the first Broadway show he performed in, *Hair*, in 1977, encouraging and supporting him. The navigator of the family, Mary Ann kept everyone on track until she became ill and then the family started to dissolve. "When I was growing up, my mom was the one who talked to me, and I was sometimes able to give back."



"All of a sudden there would be a twinkle, a warmth and look of great love in her eyes. Then I would see fear in her eyes that I had never seen, as if the landmarks that were so familiar to her were now foreign." 

"Alzheimer's is not pretty, it can get embarrassing, and when the pillar falters, everything else changes," Gallagher has said.

Strength in Community

Diagnosed in 1985, Mary Ann battled Alzheimer's for nearly 20 years, until her death at age 89. While she lived with the disease for many years, she went from being a little out of reach to progressing quickly—a cruel yet common aspect of the disease. According to Gallagher, her decline tore the seams of the family to the breaking point.

For the many years before his mother's death in 2004, Gallagher witnessed her gradual descent into the oblivion that characterizes Alzheimer's disease. Over time, slight memory lapses eventually gave way to a profound disconnection from the present. Occasionally, there would be moments of grace in the form of a moment of clarity. But eventually, she no longer recognized friends and family. Ultimately, it was her face that best conveyed both her love and fears.

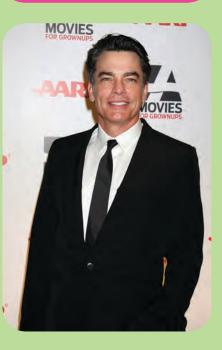
"All of a sudden there would be a twinkle, a warmth and look of great love in her eyes. Then I would see fear in her eyes that I had never seen, as if the landmarks that were so familiar to her were now foreign," recalled Gallagher.

Future Focused

Looking back, Gallagher recognizes that his grandmother (who lived with them at one point) also had Alzheimer's—although they called it senility at the time. With this genetic heritage, he has admitted to worrying about his own future with the disease. In his

Sweet Notes

Mary Ann Gallagher had beautiful handwriting, remembers her son Peter, and would leave him little notes. One special sentiment she wrote that he has recounted was: "Be good, dear son, and let those who will be clever do noble things and not just dream them."



D-Day

June 6 will always have special meaning for Peter Gallagher and his family. His mother Mary Ann died on that day in 2004—exactly 60 years to the day after D-Day. What makes this remarkable is Gallagher's dad landed on a Normandy beach, and Mary Ann was a bacteriologist at Walter Reed Army Medical Center.

The Terrible Toll of Alzheimer's

In 2017, Alzheimer's disease will affect more than 5 million people at an enormous cost to our nation's health care system. It's estimated that Alzheimer's will cost \$259 billion this year, and that figure is growing. By 2050, the financial toll could be in excess of \$1 trillion.

Unpaid caregivers bear much of the burden, as well. In 2016, more than 15 million Americans provided 18.2 billion hours of care, valued at \$230 billion. The only solution to ending this epidemic is continued research funding to find a cure.

career as an actor, and particularly as a Broadway actor, he has the added pressure of learning extensive lines and cues. Yet, Broadway is where he started his career and where he wants to be as long as he can. Speaking about his personal challenges of working on Broadway at this point in his life, Gallagher has said: "These moments are precious because I know the mental faculties won't always be available."

Married to his wife Paula Harwood since May 7, 1983, Gallagher has two children. Unfortunately, they didn't have the opportunity to know their grandmother before she had the disease, a regret he has shared publicly.

Today, Gallagher continues to volunteer as a passionate advocate and ambassador for the disease.

For Mom

As most families touched by Alzheimer's disease experience, seeing a loved one's decline is a unique type of pain experienced deeply. Feeling the frustration and inability to help a friend or relative can be overwhelming and life-changing.

"Watching a loved one suffer from Alzheimer's is excellent at making you feel powerless, but it doesn't have to make you feel alone," Gallagher has said. He embodies this sentiment as he publicly speaks out about the disease whenever possible, and participates at numerous fundraising performances. His tireless support of Alzheimer's research over the years has been a true testament to his love for his mother.

Devastated yet inspired by his mother's fight, Gallagher immersed himself in the search for a cure. He has participated in numerous fundraisers and charity events, all with the resolute hope that treatments for this devastating disease will be found soon. His crusade to spread awareness and raise funds is his way of memorializing his beloved mother, as he has been quoted: "I do it for my mother. It's the best way I can think of to honor her."

Swinning your Way to BETTER HEALTH

Swimming and other water-based exercises are wonderful for your health. Here's what you need to know.

ooking for a low-impact exercise that helps the body and mind? As low-impact, aerobically sound exercises go, swimming is about as good as it gets. Much easier on the joints and muscles than running or other high-impact exercises, swimming works the heart and lungs and has benefits for mental health, as well.

FITNESS

According to the Centers for Disease Control and Prevention (CDC), swimmers have roughly half the risk of death that inactive people do. People also tend to exercise longer in water than on land and report enjoying it more, too.

People with chronic

diseases can benefit tremendously from swimming. For people with arthritis, swimming can help improve the use of affected joints and decrease pain, all without worsening symptoms. Older adults who don't have arthritis also find that swimming and other water-based exercises can help improve the overall quality of life and decrease disability, the CDC reports.

Exercising in water is also great for your mental health. Swimming has been shown to improve mood in men and women. Exercising in warm water can help reduce the symptoms of depression and improve overall mood, too, says the CDC.

But does swimming make you stronger or more flexible? Yes, on both counts. Swimming works the entire body, including core, arms, legs, glutes and back. (Water offers about 12 times the resistance that air does, which helps you get more out of your



workout.) In short, swimming is an ideal form of exercise for many older Americans.

Safe Swimming

While swimming is great for your physical and mental health, there are precautions to take to ensure a safe swim. If you swim in a pool, it's a good idea to have a lifeguard on duty or someone who can monitor your safety while swimming. Also, don't overdo it in a single workout. In general, you want to get 2½ hours of swimming (or a combination of swimming and other aerobic exercise) per week. If you haven't been swimming in a while, though, start with a 5- to 10-minute session and gradually work your way up to that level.

If you prefer to swim in a lake or the ocean, be sure you know about any dangerous currents ahead of time, and avoid them. It's also always best to swim while a lifeguard is on duty, assuming one is available.

MIND DIET Offers Protection Against Alzheimer's

Study shows some benefit from Mediterranean-inspired foods

e all know that eating a healthy diet is good for our bodies. According to a recent study, it can also be good for our minds. Funded by the National Institute on Aging, the study found as much as a 53 percent reduction in the risk of Alzheimer's in participants who rigorously followed the MIND diet and, in those who followed it moderately, about a 35 percent reduction.

Many Benefits to a Healthy Diet

The MIND diet, developed by Rush University epidemiologist Martha Clare Morris, PhD, and her colleagues, is a combination of the DASH (Dietary Approach to Stop Hypertension) and Mediterranean diets.

These diets, some researchers found, offer some measure of protection against dementia—a benefit that comes in addition to lowering the risk of stroke, heart attack and high blood pressure.

Healthy foods included in the MIND diet are:

- Beans
- Berries
- Fish
- Green leafy vegetables
- Other vegetables
- Nuts
- Olive oil
- Poultry
- Wine

Spring 2017

• Whole grains

Foods to be limited or avoided are butter and stick margarine (less than one tablespoon per day); and cheese, fried/fast food, pastries and sweets, and red meats (less than one serving a week for each).

It's Time to Eat

Recommendations for the MIND diet include eating each day:

- A salad
- At least three servings of whole grains
- One other vegetable
- A glass of wine

Other serving recommendations are:

- Nuts for snacking (most days)
- Beans (every other day)
- Berries and poultry (at least twice a week)
- Fish (at least once a week)

As with any diet, researchers say, the longer you follow it, the greater the benefits will be. "One of the more exciting things about this is that people who adhered even moderately to the MIND diet had a reduction in their risk for AD," said Dr. Morris in a Rush University news article. "I think that will motivate people."

See Mediterranean Baked Fish recipe, page 30.

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What You Need to Know About Alzheimer's Care and Medicare

hen caring for someone with Alzheimer's, you don't want to make any assumptions about their healthcare or what services are covered under Medicare. Unfortunately, many families make this mistake more often than you think.

A federal insurance program available to those over age 65, Medicare covers healthcare costs deemed "medically necessary." Understanding coverage can be confusing, especially when it comes to Alzheimer's and dementia care, which highlights the importance of researching your options and knowing what the patient is entitled to.

"Many people think that Medicare will cover placement in a rehab facility or home healthcare and it does, but only in certain circumstances," says Catherine Seal, president of National Academy of Elder Law Attorneys, and senior partner at Kirtland & Seal, L.L.C. in Colorado Springs, CO. "If your mother breaks her hip, is in the hospital for three or four days and then discharged, if she's not well enough to go home, then Medicare will pay for post-hospitalization rehab in a skilled nursing facility or a rehab center." However, the patient must enter the skilled nursing facility within 30 days of being discharged from the hospital.

The problem is when family members expect Medicare to always pay for rehab because it was covered in the past. However, as Seal points out that's not always the case. "Your insurance pays for you to be in the hospital [unless] they can deliver those services in another environment for less cost in a skilled nursing facility or by sending home health aides to your home," says Seal. "If you're still rehabilitating from an injury or illness that Medicare would cover, you'll get that follow-up care."

What Does Medicare Cover?

Medicare covers medically necessary healthcare expenses, such as lab tests, surgeries, wheelchairs, walkers, inpatient hospital care, doctor's visits, skilled nursing home care under certain limited circumstances and hospice care at the patient's end of life. While these services are covered by Medicare, the patient still has to pay a deductible, coinsurance By Margie Monin Dombrowski Edited by Bernard A. Krooks, JD, CPA, LL.M, CELA

and copayments. Original Medicare is divided into four different parts, as outlined below.

- **Part A (acute care):** Inpatient hospital care, skilled nursing home care, home health care and hospice care.
- Part B (doctor's office visits): Services and supplies needed to diagnose and treat medical conditions, including preventive services, mental health services, ambulance services, medical equipment, second opinions and a limited number of outpatient prescription drugs.
- Part C (Medicare Advantage Plan through private insurance, managed care): Generally covers the same types of services as Part A and B with additional services and sometimes includes prescription drugs, vision and dental.
- Part D (prescription drug coverage through private insurance): Prescription drug coverage at different price tiers. Once your drug costs reach the initial \$3,700 coverage limit, you're in the coverage gap, or the "donut hole." Then you pay 40 percent for brand-name drugs or 51 percent for generic up to a \$4,950 out-of-pocket spending limit. (Discounts increase each year until 2020 when the donut hole closes.) After this point, you get catastrophic coverage. "If you meet certain income limits, you won't go into the donut hole," Seal says.

Most people with Medicare have parts A and B (there is no charge for Part A), but you have to select each type of coverage you'll need. As Seal explains, most people are entitled to B and you actually have to elect out of it; carefully consider future healthcare costs when you weigh your decision.

"Some people might not choose B coverage when they sign up for Medicare and it's often a big mistake," Seal says. "If you choose B later and you can't prove you were covered by a group health plan



as an employee and not a retiree, you'll pay a higher premium for later enrollment."

How to Get Additional Help

As the Alzheimer's patient's condition progresses, their healthcare needs—and costs—will increase. Eventually, the elder may need to be in an assisted living facility, which comes with a hefty price tag.

"Medicare is not going to cover a lot of what an Alzheimer's patient needs," Seal says. "As the person starts to lose their activities of daily living, they're going to need help with transportation, shopping, preparing meals, managing medications, taking care of their home and managing finances and Medicare is not going to pay for that."

Here are a few ways to bridge the healthcare gap:

Long-term Insurance

Custodial care requires a long-term care insurance policy through private insurance. Ideally, this is in place long before the patient needs it. Medicare does not cover custodial care, so it's a good idea to consider a long-term care insurance policy. Medicaid may also cover long-term care for those who are financially and medically eligible.

Supplemental Insurance

Medicare Supplemental Insurance (Medigap), offered through private insurance, helps pay for some but not all costs not covered by Original Medicare (copayments, coinsurance, deductibles) and can't be combined with Part C.

Special Needs Plans

A new type of Medicare Advantage Plan, SNPs offer tailored benefits, provider choices and drugs for specific diseases and conditions, including dementia, diabetes, cancer, chronic heart failure, autoimmune disease and more.

Drug Discounts

If Medicare isn't enough, Extra Help is a federal program that helps low-income individuals pay for Medicare drug costs based on their income level. State programs may help pay for your Medicare premiums and drug costs. Patient assistance programs offered by drug companies are another option.

"If you have concerns about your spouse or family member, your doctor can refer them for a cognitive assessment," says Seal. "Now as of 2017 you can get coverage for care planning sessions for individuals with dementia so you can meet with professionals and talk about what kind of care you'll need and how to plan for it."

For more information on Medicare, visit Medicare.gov and learn more about Medicare patient rights at MedicareAdvocacy.org.

Bernard A. Krooks is managing partner of the law firm Littman Krooks LLP (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.

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 29)

MATCH THESE

The actors on the left played the characters who are referred to in the film titles on the right. Can you match each actor to the proper film?

- 1. ____ Adrien Brody
- 2. ____ Julia Roberts
- 3. ____ Robert Preston
- 4. ____ Anne Bancroft
- 5. ____ Dustin Hoffman
- 6. ____ Bette Midler
- 7. ____ George Clooney
- 8. ____ Peter O'Toole
- 9. ____ Barbra Streisand

11. ____ Russell Crowe

12. ____ Meryl Streep

- 10. ____ Diana Ross
- j. "The Rose" k. "Gladiator"

a. "Tootsie"

b. "The Lion in Winter"

c. "The Iron Lady"

d. "The Music Man"

e. "Michael Clayton"

g. "The Miracle Worker"

h. "Lady Sings the Blues"

f. "Funny Girl"

i. "The Pianist"

l. "Erin Brockovich"

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 humorous observation from George Bernard Shaw. The black squares are the spaces between words. One letter has been dropped in place to start you off.

F	1	F	D	1	Ν	G	Ν	T	Α	Α	R	U	T	T	F
R	Ε	1	F			G									
Ľ	1	Ν	T	1	Ν	S		Y	0	U	R	S	Ε	L	С
	L	Α	Ε			1				U	B	0	U		
L															

_EAPFROG

Here's a list of famous pairs. The letters of their names are in the correct order, but they overlap. All you have to do to find the names is separate the letters.

Example: JUROLMIEOET - ROMEO JULIET

1. ABLURLENSN	
2. JEBRERNY	
3. GPARMOBCLTEER	
4. CALENOTPOATNRYA	
5. CSOHNENYR	
6. ROASTGAERIRES	
7. TLHOUELIMSAE	
8. JONASPEOPLHEIONNE	
9. GASRIFUMNKOENL	



•VISIT US AT KAPPAPUZZLES.COM•

Preserving Your Memory

BRAIN-BOOSTING CROSSWORDS

(Answers on page 29)

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. The second puzzle is also a thematic puzzle: the title "Precious Puzzle" is a hint. Have fun testing your knowledge while doing something that's good for you!

	1	2	3				4	5	6	7	7		
	8			9			10					11	
	12						13			-			14
	15				1	6					17		
	15				ľ	0					17		
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	20	21	22		╈			23					
	24						25	<u> </u>					
	26				2	27				2	28	29	30
	31			32					33				
		34			╉				35				
			36		+						37		
A	cro	SS		2	27.	Flav	wed			11		tenc	ler
1		man	out	3	1.	Cal	iforni	a			(mo	oney)	
4	. Gar	age				exp	ort			14	. Rea	agan a	and
	occ	upant	S	3	3.	Cal	la	_			Pop	peil	
8	. Rea	ch fo	r	3	4.	Cel	ebrat	e wild	lly	16	. Me	l of b	asebal
10	. Sha	quille	of	3	5.	AC	Gardn	er		19	. Mu	sical	ending
	hoo	ps		3	6.	Giu	liani'	s		20	. Sto	ut po	le
12	. "Da	mn				nicł	knam	e		21	. Are	omati	c ches
	Yan	kees"	•	3	7.	Que	ebec	article	5		WO	bc	
	tem	ptress	5							22	•	_ said	than
13	. Eng	raver		I	D	ow	'n				dor	ne	
15	. Seri	al's se	egmer	nt	1.	Gaz	æ am	orous	ly	23	. Vig	gor	
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			n a se			area							
26	. Inte	ernet	pop-u	ps	9.	Wa	shbov	wls					

Across

- Pts. of speech
 Adjacent
- 9. "____ Mir Bist
- du Schoen" 12. "Shop" during a
- riot
- 13. Starter for "Cinderella"
- 14. Einstein's
- birthplace
- 15. Golden ____
- 17. Serpico, for one
- 18. Amphitheaters
 19. New Age
- musician John 21. Golden ____
- 25. Air-rifle ammo
- 28. Mrs.: Fr.
- 29. LP jacket
- 30. First name in
- gossip 32. "Nightmare"
- street 34. Neck hair
- 35. San Antonio
- shrine 37. Actor Jacobi
- 39. Unprecedented
- 40. Golden
- 43. Manitoba Indian 16. Serene
 - . Manitoba Indian 1

Precious Puzzle

44. Closest big city

to Carlsbad

48. Stadium sound

contraction

54. One, to Freud

55. Garden plot

56. Captures

Down

57. Be cheeky

1. Farr costar

2. Achiever

5. Putrid

Brian

8. Burp the

9. Lincoln's

10. "Turn to

11. Little

3. Ratlike animal

6. Roxy Musician

7. Perspicacious

predecessor

Stone" gp.

troublemaker

Tupperware again

4. Police operation

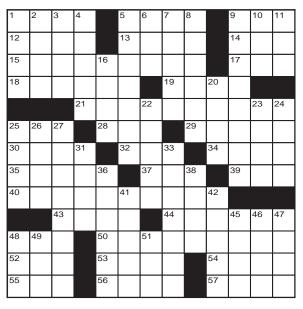
Caverns

50. Golden ____

52. Common

53. Kiln

- 20. Emulate Matt Biondi
- 22. Celebrity lawyer Melvin
- 23. Auberjonois or Enriquez
- 24. Bob's "Price Is Right" successor
- 25. Make extravagant
- claims 26. Southwestern string tie
- 27. Grabbed
- 31. Part of AMA
- 33. With-it folks
- 36. Puck's pal
- 38. Hybrid citrus
- 41. Christopher of "The Remains of the Day"
- 42. Sabers' kin
- 45. Reebok
 - competitor
- 46. Political figs.
- 47. Paydirt contents
- 48. Primary leaf vein
- 49. Hail or farewell
- 51. Vietnamese holiday



After you have located and circled in the diagram all of the words in the Word List below, read the leftover (unused) letters from left to right, line by line, to reveal an appropriate message written by British publisher and politician Brendan Bracken. The words are found in the diagram reading forward, backward, up, down, and diagonally, and always in a straight line. You are looking for a 29-letter phrase.

stratgitt title.						rou a	ire lo	oking	g for i	a 29-	letter	. pnrc	ise.			
ANECDOTE	PUN	Т	S	Α	Т	I	R	Е	Т	S	Y	R	Α	В	Ν	G
BON MOT	QUIP	Е	S	Ν	Е	S	Ν	0	Ν	D	Е	Μ	0	0	0	Κ
BUFFOONERY	RIB-TICKLER	S	R	Е	S	S	Α	G	Е	Ρ	S	Ν	0	D	I	Ν
CAPER	RIDDLE	D	D	Е	I	Т	Е	Μ	Α	I	Μ	Α	С	В	Т	Е
CARICATURE	SATIRE	F	D	R	S	Ν	0	С	С	0	Ν	G	Α	U	Α	Е
COMEDY	SCINTILLATION	0	Т	Е	0	С	Ν	I	Т	Е	Y	I	R	F	L	S
FOOLISHNESS	SHENANIGAN	0	J	G	0	W	Т	U	С	F	S	Ν	I	F	L	L
FUNNIES	SILLINESS	L	R	0	Α	т	Ν	D	F	I	Μ	Α	С	0	Т	Α
		I	I	S	I	G	0	0	L	R	I	Ν	Α	0	Т	Ρ
GAG	SPOOF	S	D	W	Ρ	т	Ρ	L	Υ	т	н	Е	т	Ν	Ν	Ρ
GASSER	TRICK	н	D	Ρ	Е	0	I	U	R	Α	W	Н	U	Е	I	Е
JEST	WHIMSY	Ν	L	G	I	Ν	0	I	Ν	Е	L	S	R	R	С	R
KNEE-SLAPPER	WISECRACK	Е	Е	т	Е	U	С	F	Α	Ρ	0	Ρ	Е	Y	S	0
NONSENSE	WITTICISM	S	R	S	J	Κ	Q	W	I	S	Е	С	R	Α	С	κ
PLAY ON WORDS		S	S	0	κ	R	I	В	т	I	С	Κ	L	Е	R	Е

SUDOKU

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

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



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PUZZLE ANSWERS

Match These

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

Dropline

Life isn't about finding yourself. Life is about creating yourself.

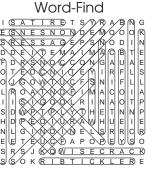
Leapfrog

1. Burns & Allen; 2. Ben & Jerry; 3. Procter & Gamble; 4. Antony & Cleopatra; 5. Sonny & Cher; 6. Astaire & Rogers; 7. Thelma & Louise; 8. Napoleon & Josephine; 9. Simon & Garfunkel.

Hidden Message

It's a good deed to forget a poor joke.

Crossword 1										
0	D	D			С	А	R	S		
G	R	А	В		0	Ν	Е	А	L	
L	0	L	А		Е	Т	С	Н	Е	R
Е	Ρ	Ι	S	0	D	Е		А	G	0
			Ι	Т	S		F	R	А	Ν
S	С	Е	Ν	Т		V	Ι	А	L	S
Ρ	Е	А	S		Μ	Ι	Ν			
А	D	S		D	А	М	А	G	Е	D
R	А	Ι	S	Τ	Ν		L	Ι	L	Υ
	R	Е	V	Е	L		Е	R	L	Е
R			U	D	Υ			L	Е	S



	Crossword 2											
А	D	V	S		Ν	Е	А	R		В	Е	Т
L	0	0	Т		0	Ν	С	Е		U	L	М
D	Е	L	Ι	С	Ι	0	U	S		С	0	Ρ
А	R	Е	Ν	А	S		Т	Е	S	н		
			G	L	0	В	Е	А	W	А	R	D
В	В	S		М	Μ	Е		L	Ι	Ν	Е	R
R	0	Ν	А		Е	L	М		М	А	Ν	Е
А	L	А	М	0		L	0	U		Ν	Е	W
G	А	Т	Е	В	R	Ι	D	G	Е			
		С	R	Е	Е		Е	L	Ρ	А	S	0
R	А	Н		R	Е	Т	R	Ι	Е	V	Е	R
Ι	۷	Е		0	V	Е	Ν		Е	Τ	Ν	Е
В	Е	D		Ν	Е	Т	S		S	А	S	S

Sudoku

8 1 9

4 7 5

6 2 3

3 4 2 5 9 7

1 6 8

A B N G	2	6	7	4	5	3
	3	9	8	1	2	6
ODIN CBTE AUAE RFLS	4	5	1	7	8	9
RFLS	9	7	6	8	3	1
	8	1	2	5	4	7
	5	3	4	9	6	2
I F L L C O I A A O T P T N N P U E I E R R C B	1	8	9	6	7	5
	6	4	3	2	1	8
<u>CRACK</u> (LERE	7	2	5	3	9	4

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مهر THIS IS A GIFT FROM: (complete below if this is a gift NAME		
CITY STA PLEASE ALLOW 8 WEEKS FOR SUBSCRIPTION TO BEGIN. *CANADIAN FUNDS ACCEPTED; HOWEVER OUTSIDE U.S. AND CANADA, PAY WITH CHECK DRAWN ON A U.S. BANK OR	TE ZIP	A5CCAR JES; \$22.20-12 ISSUES; \$44.40-24 ISSUES.

Mediterranean Baked Fish

This dish is baked and flavored with a Mediterranean-style tomato, onion and garlic sauce to make it lower in fat and salt.

Ingredients

- 2 tsp olive oil
- 1 large onion, sliced
- 1 can (16 oz) whole tomatoes, drained (reserve juice) and coarsely chopped
- 1 bay leaf
- 1 clove garlic, minced
- 1 cup dry white wine
- 1/2 cup reserved tomato juice, from canned tomatoes
- 1/4 cup lemon juice
- 1/4 cup orange juice
- 1 Tbsp fresh grated orange peel
- 1 tsp fennel seeds, crushed
- 1/2 tsp dried oregano, crushed
- 1/2 tsp dried thyme, crushed
- 1/2 tsp dried basil, crushed
- black pepper, to taste
- 1 lb fish fillets (sole, flounder, or sea perch)

Directions

Heat oil in large nonstick skillet. Add onion, and sauté over moderate heat 5 minutes or until soft. Add all remaining ingredients except fish. Stir well and simmer 30 minutes, uncovered.

Arrange fish in 10- x 6-inch baking dish; cover with sauce. Bake, uncovered, at 375 degrees F about 15 minutes or until fish flakes easily.

Yield: 4 servings (serving size: 4 oz fillet with sauce). Each serving provides: calories: 177; total fat: 4 g; saturated fat: 1 g; cholesterol: 56 mg; sodium: 281 mg.

Source: National Heart, Lung and Blood Institute, www.nhlbi.nih.gov



Fisher Center Scientist Spotlight

Due to the outstanding work of Fisher Center's world-renowned scientists, we are getting closer to finding a cure!



Dr. Jean-Pierre Roussarie

Senior Research Associate at the Fisher Center for Alzheimer's Research at The Rockefeller University

Hometown:

Dr. Jean-Pierre Roussarie grew up in a tiny village, with only 100 inhabitants, in the suburbs of Paris, called Maincourt-sur-Yvette.

Education:

He was initially trained as an engineer at the Ecole Polytechnique before deciding he wanted to embrace the more meaningful endeavor of biomedical research. He completed his PhD at the Pasteur Institute in Paris on an animal model of Multiple Sclerosis, before finally joining the Greengard Laboratory in 2007 to work on Alzheimer's disease.

Fun Fact:

Dr. Jean-Pierre Roussarie was born in California, where his father was a postdoctoral fellow in physics at Stanford University. Dr. Jean-Pierre Roussarie moved back to France at the age of 2, and grew up there. As you can imagine his accent is closer to a Parisian accent than to a Californian accent!

Research Discoveries:

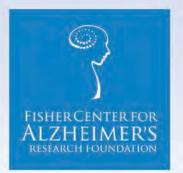
Under the direction of Nobel Laureate Dr. Paul Greengard, Dr. Jean-Pierre Roussarie's research focuses on an understudied aspect of the disease: the difference between various parts of the brain in their susceptibility to the disease. Using a technology that the Fisher Center scientists invented a few years ago to map all proteins present in a given type of neuron, Dr. Jean-Pierre Roussarie is trying to find the particularities of the most vulnerable neurons of the brain.

Dr. Jean-Pierre Roussarie is also teaming up with bio-statisticians from Princeton University to apply the most cutting-edge deep learning algorithms to use both the knowledge gathered from these vulnerable neurons, and publicly available data coming from genetics studies. This approach should reveal what exactly is the "Achilles heel" of vulnerable neurons, and what molecular process makes them degenerate. The final objective is to pinpoint proteins that could then be new targets for drugs that would prevent neurons from degenerating. Dr. Jean-Pierre Roussarie is going to submit these exciting results for publication very soon, so stay tuned!

We want to thank Dr. Jean-Pierre Roussarie and all of our worldrenowned scientists at the Fisher Center who work hard every day in the quest to find a cure.



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