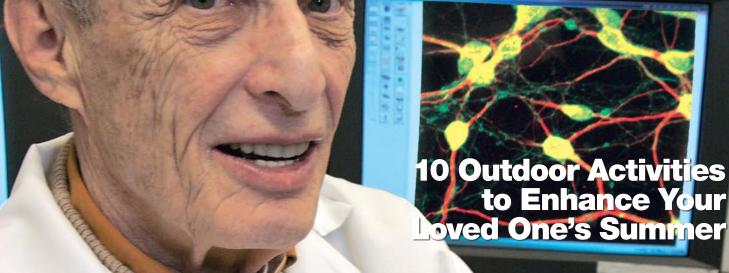
preserving your

The Magazine of Health and Hope



Is an Effective Alzheimer's Treatment at Hand?



oved One's Summer

Learn about the Benefits of Gardening from HGTV Host **Justin Cave**

MetLife Foundation Awards Scientists for Research in Alzheimer's Disease

(Page 34, Exercise Your Memory)



If Alzheimer's will end in my generation.

It's hard going through life with the thought of Alzheimer's hanging over your head. That's why for over 20 years, MetLife Foundation has supported research on this disease. Today, we are proud to honor Bart De Strooper, MD, PhD, University of Leuven and VIB Institute, Belgium; Robert Vassar, PhD, Northwestern University, Chicago and Philip C. Wong, PhD, The Johns Hopkins University School of Medicine, Baltimore. They join a growing list of scientists searching for a cure. So that one day, Alzheimer's won't follow in anybody's footsteps.

MetLife Foundation
A leader in finding an Alzheimer's cure

Features

Is an Effective Alzheimer's Treatment at Hand? An Expert Speaks

Dr. Paul Greengard, Nobel Prize recipient, answers today's most pressing questions on the causes and treatments of Alzheimer's disease.



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MetLife Foundation Awards Scientists for Research in Alzheimer's Disease

MetLife Foundation honored three scientists who have made significant contributions to the understanding of Alzheimer's.



Discover tips to help preserve memories—and create new ones.





Easy Summer Gardening Soothes the Soul

Learn about the benefits of gardening from HGTV host Justin Cave.

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A leader in finding an Alzheimer's cure

A Season for Memories

ore than any other season, summer tends to bring back memories from the past. A warm breeze may make it seem like only yesterday when you were running through sprinklers, eating homemade ice cream, and chasing fireflies. Here at the Fisher Center, we're working diligently to preserve precious memories like these by searching for a cure and more effective treatments for Alzheimer's disease.

In "MetLife Foundation Awards Scientists for Research in Alzheimer's Disease," on page 14 of this issue, you can read about Alzheimer's advancements being made by some of the world's top scientists. And our feature story on page 8 asks the question: "Is an Effective Alzheimer's Treatment at Hand?"

Also in this issue, we have plenty of articles that will help you incorporate your favorite things about summer into your life as a caregiver. We're covering healthy summer fruits; gardening, with Justin Cave, host of the HGTV show *Ground Breakers*; and aquatic exercise. And if you're still looking for more ways to enjoy your summer, we have 10 more suggestions for you on page 20.



Betsey Odell

So, get to reading ... And once you finish this issue of *Preserving Your Memory*, put it down and head outside to enjoy your summer. We hope this season will bring back many warm memories for you—and help you create new ones, too.

Betsey Odell Editor in Chief

Kotsay Will

Please send your tips, stories, or questions to the Fisher Center for Alzheimer's Research Foundation, West 46th St. & 12th Ave., New York, NY 10036, or by e-mail to betsey@alzinfo.org

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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 the world's largest research team 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. Of every dollar we raise, 94 cents goes directly to research programs. Oprah's O Magazine lists us as the top charity to give to for Alzheimer's. For more information or to make a donation, go to www.ALZinfo.org.

The Latest News on Alzheimer's Disease and Brain Health

Retired Supreme Court Justice and Alzheimer's Caregiver Sandra Day O'Connor Recently Addressed Congress on Alzheimer's Impact

At a hearing of the U.S. Senate Special Committee on Aging, Sandra Day O'Connor, former Associate Justice of the Supreme Court, gave testimony on the financial and emotional burden Alzheimer's disease places on Americans, and urged Congress to aid in the funding of the disease. She referenced the rapidly aging American population as evidence of increasing need to combat the disease. O'Connor was the first woman appointed to the U.S. Supreme Court. She retired in 2006, after 25 years, to care for her husband John, who suffers from Alzheimer's disease.

A Cup of Coffee a Day May Help the Brain

A recent study in the *Journal of Neu*roinflammation showed that caffeine in an amount equivalent to one cup of coffee a day could protect the bloodbrain barrier (BBB) from damage from a high-fat diet. BBB leakage often occurs in neurological disorders such as Alzheimer's disease. This study is one of several that have suggested caffeine intake may help ward off memory loss due to aging and may reduce the risk of Alzheimer's disease.

A Small Molecule Can Take Apart Alzheimer's Disease Protein Fibers

Research conducted at the University of Pennsylvania School of Medicine and recently recorded in the *Proceedings of the National Academy of Sciences* has shown



that a small molecule known as DAPH can selectively take apart amyloid fibers, some of which are related to Alzheimer's disease. "[DAPH] selectively targets the areas that hold fibers together, and converts fibers to a form that is unable to grow," says the study's senior author, James Shorter, PhD. The study suggests that it is possible to generate small molecules that can attack the amyloid fibers associated with Alzheimer's disease.

Researchers Explain Link between Diabetes and Alzheimer's Disease

While medical researches have known that diabetics have an increased risk of developing Alzheimer's disease, they were previously unsure why. Now, the Salk Institute for Biological Studies has identified a basis for the link. A study published in *Neurobiology of Aging* examined young, diabetic mice and found that the interaction of elevated glucose levels, a characteristic of diabetes, and high levels of beta-amyloid, a

protein in the brain plaques associated with Alzheimer's disease, damaged blood vessels in the brains of the mice. The damage took place before plaques appeared, but the mice still suffered from memory loss and inflammation in the brain. Previous studies have shown that diabetics have a 30 percent to 65 percent higher risk of developing Alzheimer's disease than non-diabetics.

GAO Report on Nursing Home Quality of Care Released, Senators Call for Action

In May, the Government Accountability Office (GAO) released a report highlighting quality-of-care deficiencies in nursing homes. In response, Senators Chuck Grassley (R-Iowa) and Herb Kohl (D-Wis.) recommended an overhaul of nursing home standards, calling for adequate investigative skills for state surveyors to identify problems; federal penalties strong enough to achieve accountability and encourage compliance; and consumer access to accurate, meaningful, and current data. "Our legislative reform effort is about securing transparency," said Senator Grassley. "With information, consumers can make the best choices for their loved ones." Senators Grasslev and Kohl have introduced legislation intended to improve the quality of care in nursing homes with more and better information for consumers provided by the federal government on the Nursing Home Compare website. To view the report, visit www.gao.gov/new.items/ d08517.pdf. For more information on the Grassley-Kohl Nursing Home Transparency and Improvement Act, contact either Senator's office.

Alzheimer's Vaccine Study Is Suspended

An Alzheimer's vaccine that is in development by the pharmaceutical companies Elan Corp and Wyeth has been suspended mid-trial so that the companies can determine whether a skin lesion (an inflammation of blood vessels) suffered by a patient in the clinical trial was due to the vaccine. The U.S. Food and Drug Administration (FDA) halted the trials, and the companies are now in talks with health regulators to analyze the issues surrounding this potential side effect. The patient was released from the hospital, and the lesions are healing. This trial is unrelated to another Alzheimer's drug called bapineuzamab, which is in late-trial stage testing by the companies.

Result of Third Phase of Testing for Alzheimer's Drug Awaited

Flurizan, an Alzheimer's drug by Myriad Genetics, had positive results in phase II of its clinical trial. Many Alzheimer's patients in the trial got no worse during the two years of testing, and some of the patients treated with the drug actually seemed to improve. Participants with mild-stage Alzheimer's saw the most improvement. The results of Myriad's phase III trial will be announced this summer. If successful, the drug could be approved for use in patients and would be the first example of a drug that actually alters the course of Alzheimer's disease.

Depression a Risk Factor Rather than an Early Sign of Alzheimer's

Scientists have long observed a link between depression in old age and increased incidence of Alzheimer's disease. However, until recently, it was unknown whether depression contributes to dementia or is a result of it. A study conducted by Rush University Medical Center may have the answer. In the study, there were no increases

in the depression of depressed subjects before their diagnosis of Alzheimer's. It was surmised that depression would increase if it were a consequence of the dementia; however, an increase was not observed. In addition, the researchers concluded that depression may contribute to changes in the brain that affect its ability to sustain function when pathological changes related to Alzheimer's occur.

Effectiveness of At-Home Alzheimer's Testing Is Controversial

Physicians are questioning a new test allowing people to test for Alzheimer's risk at home. The test purportedly helps patients identify whether or not they have a gene associated with Alzheimer's disease. However, being positive for the gene does not mean a person will go on to develop Alzheimer's. Doctors fear that the test, which costs approximately \$400 dollars and requires a saliva sample, will create unnecessary anxiety and emotional suffering in patients. Any person, even those who choose direct-to-consumer testing, should discuss Alzheimer's risk factors with their physician.

Phase III of Gamma Secretase Inhibitor Trial

Eli Lilly has begun phase III of the LY450139 trial, which is studying a gamma secretase inhibitor for the treatment of early- to mid-stage Alzheimer's disease. It is hoped that the death of brain cells and other degenerative changes that occur in Alzheimer's can be slowed through blocking of gamma secretase. If successful, this inhibitor could slow or stop progression of Alzheimer's.

Genetic Information Nondiscrimination Act (GINA) Signed into Law

President Bush signed into law a bill that is being hailed by some as a civil rights victory. The law will prevent employers from discriminating against individuals on the basis of genetic information, and it keeps health insurance carriers from denying coverage to healthy individuals who may have a genetic predisposition for developing a disease such as Alzheimer's. Opponents of the legislation worry that it may lead to frivolous lawsuits, while many others believe that the bill should go further by enabling personal control over genetic testing results.

Results from NSAIDs Study Announced

Non-steroidal anti-inflammatory drugs, commonly referred to as NSAIDs, appear to reduce Alzheimer's risk, but the study found that not all NSAIDs worked. The study also concluded that NSAIDs are not yet a recommended approach for preventing Alzheimer's, and there is no data suggesting that NSAIDs can effectively fight Alzheimer's. Researchers say that the possible risk-reduction by NSAIDs is a small benefit. The findings of this study were published in *Neurology*.

Alzheimer's Sufferer and Legendary Actor Charlton Heston Passed Away This Spring

Charlton Heston, film star of such Hollywood classics as *The Ten Commandments*, *Ben-Hur*, and *Planet of the Apes*, passed away on April 5 after a struggle with Alzheimer's disease. Heston formally announced his Alzheimer's diagnosis in 2002, helping give a public face to the disease. In addition to his career as an actor, Heston was known as a political activist—from his Civil Rights work of the 1960s to his Second Amendment activism of later years. He was also a World War II veteran and past-president of the Screen Actors Guild. He died at age 84.

Check the Fisher Center website (www.ALZinfo.org) often for up-to-date and expert-reviewed scientific news.

Is an Effective Alzheimer's Treatment

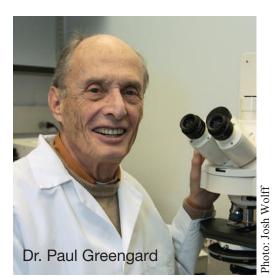
at Hand?

An Expert Speaks

bout \$1 billion is spent each year on medicines like Aricept, Razadyne, Exelon, and Namenda. These drugs are used primarily to ease symptoms of cognitive loss. In general, improvements are modest. Current medications for Alzheimer's may slow mental decline for a limited time during the early stages of the disease, but do not stop the eventual downward spiral. Others drugs, such as anti-depressants and anti-psychotics, may be prescribed to ease agitation and aggressive behaviors.

However, the need for an effective treatment to halt or even reverse the memory loss of Alzheimer's is as urgent as ever. So is the need to prevent the disease from taking hold in the first place. The number of cases of Alzheimer's is expected to triple by the end of this century, as the U.S. population ages, causing proportionally more people to be in their 70s and 80s, when an Alzheimer's diagnosis grows more likely.

A number of experimental drugs and vaccines are in late-stage testing to determine whether they can halt, reverse, or prevent the onset of Alzheimer's. Unlike existing treatments, these medicines may actually modify the





course of the disease. We asked Dr. Paul Greengard, Nobel laureate and medical director of the Fisher Center for Alzheimer's Disease Research, to comment on new treatments in the Alzheimer's pipeline. The work of his lab at The Rockefeller University has contributed to an understanding of what goes wrong in the brain in Alzheimer's disease, as investigators around the globe continue their search to find a cure for an ailment that affects 25 million people worldwide.

Dr. Paul Greengard of the Fisher Center for Alzheimer's Disease Research comments on new treatments now in development.

PYM: Dr. Greengard, is the attempt to reduce betaamyloid the most promising approach to developing new, more effective treatments for Alzheimer's disease?

Dr. Greengard: A majority of scientists involved in Alzheimer's research believe that beta-amyloid is the main pathogenic factor responsible for the degenerative changes that

occur in the brain during Alzheimer's disease. Thus, drugs that lower beta-amyloid levels in the brain are expected to offer the most promising treatments. However, Alzheimer's is a complex disease. Treatments that do not target beta-amyloid might also be beneficial and might ultimately be used in combination with anti-amyloid therapies.



"Active" and "passive" vaccines are now being tested in the treatment of Alzheimer's disease.

PYM: When might an Alzheimer's treatment that stops the disease from getting worse become available? Would it help patients who already have Alzheimer's disease?

Dr. Greengard: A drug designed to slow progression of Alzheimer's disease, Flurizan (tarenflurbil), has recently completed late-stage testing on large numbers of patients, and the results of those tests are anxiously awaited. Smaller scale clinical trials of Flurizan carried out over the last few years have shown promise. In those trials, the drug appeared to slow progression of the disease in many patients, but only the results of the larger trials will be conclusive. Flurizan reduces formation of a particularly toxic form of beta-amyloid, called beta-amyloid 42. In the next few years, additional drugs that lower either beta-amyloid 42 or total beta-amyloid will have been tested in large clinical trials.

We believe that an effective Alzheimer's therapy will involve reducing levels of beta-amyloid. However, it is not known whether patients who already have Alzheimer's could improve substantially if the progression of the disease is slowed or even stopped. Most likely, those who will benefit most from beta-amyloid-lowering drugs will be people in the earliest stages of disease, for whom extensive brain damage has not yet occurred.

PYM: Dr. Greengard, are vaccines that clear betaamyloid from the brain a promising approach to treating, and perhaps even curing, Alzheimer's disease?

Dr. Greengard: Vaccines that are designed to clear beta-amyloid are a very exciting line of research. They can be divided into two classes, "active vaccines" and "passive vaccines." The active vaccines consist of a form of beta-amyloid that is injected into the body. This causes the immune system to produce antibodies that attach to beta-amyloid, causing it to be cleared from the body. An "active" vaccine was tested in patients a few years ago. Unfortunately, the tests had to be stopped because the vaccine caused a small number of patients to experience swelling of the brain. This may have occurred because the vaccine also stimulated the immune system to produce specialized T-cells. Drug companies are working on beta-amyloid vaccines that are designed not to stimulate specialized T-cells, in the hope that side effects such as brain swelling and inflammation can be eliminated.

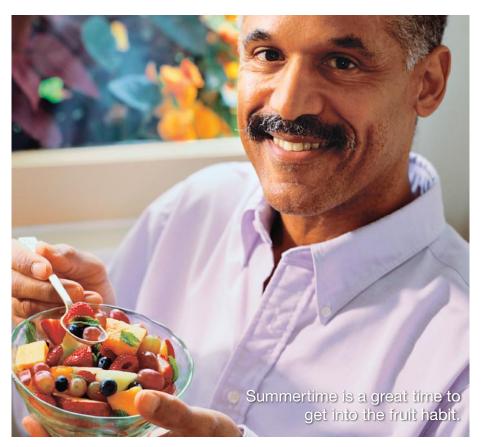
"Passive" vaccines consist of antibodies made in the laboratory that are injected into a patient. The antibodies target beta-amyloid. The vaccine is called "passive" because when it is injected into the body it does not stimulate the patient's immune system to attack beta-amyloid by producing its own antibodies or T-cells. As a result, passive vaccines are not expected to produce the toxic effects that were caused by the first, active vaccine tested a few years ago. Passive vaccines are also a very promising approach. A passive beta-amyloid vaccine is currently being tested in Alzheimer's patients in clinical trials that will take several years to complete.

PYM: Doctors often recommend a daily aspirin, which has anti-inflammatory and blood-thinning properties, for people at risk for heart disease. Is taking a non-steroidal anti-inflammatory drug (NSAID) like aspirin each day a good idea for someone with Alzheimer's or at risk for the disease?

Dr. Greengard: Current anti-inflammatory drugs have not been shown to be useful for treating Alzheimer's disease. There is evidence, however, that long-term use (about 5 years) of some but not all NSAIDs (e.g., ibuprofen but not celecoxib) might lower the risk of developing Alzheimer's disease. However, these drugs can have dangerous side effects, such as gastrointestinal bleeding and ulcers for some people. Nevertheless, there is a lot of evidence that inflammation plays an important role in Alzheimer's disease. It is hoped, as our basic knowledge of inflammation and its role in the brain grows, that anti-inflammatory drugs can be developed to treat or prevent Alzheimer's disease.

(continued on page 38)

Fresh Fruits Deliver Good Nutrition, Great Taste Take advantage of summer's sweet bounty by indulging in goodfor-your-brain fruits.



raving something sweet? What if you could indulge your sweet tooth with a mouthwatering treat—and it was healthy, too?

Everyone knows that eating plenty of fruit is part of a healthy diet, but research shows it can even help preserve memory. Sound too good to be true? Not if you choose your treats this summer fresh from the farm. The summer bounty at farmers' markets, roadside stands, and pick-your-own farms starts in June when strawberries come into season. They're followed soon by blueberries, raspberries, peaches, and then apples in the fall.

The top reason you should eat these succulent fruits?

"They taste great—that's number one," says Lona Sandon, RD, a national spokesperson for the American Dietetic Association.

Fresh fruits are unbeatable as a snack, salad ingredient, side dish, or dessert. But unlike cookies, candies, and cakes, fruits are sweet treats that also have sweet health benefits.

"They're great sources of vitamins the body needs to be healthy," notes Sandon. "Fruits are a good source of water. They provide fiber content to keep our gastrointestinal tracts running smoothly. And they provide antioxidants that can prevent damage caused by our body's metabolism and by environmental pol-

lutants." In fact, studies suggest that regular consumption of fruit juices may reduce the risk of dementia by half!

Fresh Fruits Provide a Rainbow of Benefits

The antioxidants in fruit include vitamins A, C, and E and substances called phytochemicals, which are increasingly being recognized as powerful tools for preventing damage to cells in the body. Vitamins such as those above also are necessary for brain function and proper functioning of the immune system.

"Some of these antioxidants might even repair damage that already has occurred if it has not yet become a permanent part of the cell," notes Karen Collins, MS, RD, a nutritional advisor to the American Institute for Cancer Research.

Apples contain a powerful antioxidant called quercitin, which might lessen the risk of developing dementia. Other healthful fruits are blueberries, pomegranates bananas, and oranges.

A new study suggests that the flavonoids in blueberries might help people with Alzheimer's. Research conducted in the United Kingdom found that blueberries impacted spatial working memory. While scientists previously assumed that flavonoid compounds in blueberries had an effect on memory, this study added basis to the claim.

Other research has found that the flavonoid compound of luteolin and diosmin are able to reduce levels of beta-amyloid (in the laboratory), which is a component of the plaques that build up in the brains of Alzheimer's sufferers. Researchers also found that one of the targets of the flavonoids is presenilin-1, a protein that has been genetically linked

to Alzheimer's disease. These particular flavonoids occur naturally in citrus fruits.

And, researchers have found many benefits of phytochemicals, which include the substances that give fruits their brilliant hues. In addition to the possibility that they may help prevent dementia, phytochemicals can block certain cancer-causing agents and also can block oxidation of fats so artery walls stay healthier.

While phytochemicals are mostly found in the skins of fruits, many of these beneficial substances are found in fruit juices as well. But be careful. Sugar, in the form of high fructose corn syrup is added to many, jacking up their calorie content, which can lead to weight gain, another risk factor for Alzheimer's disease and other illnesses.

With such a strong résumé of benefits, fruits are getting respect in high places—and a more prominent place at the family table. When the U.S. Department of Agriculture (USDA) issued its most recent dietary guidelines, it recommended 2 cups of fruit daily for the average person consuming a 2,000-calorie diet. That is in addition to 2 1/2 cups of vegetables daily.

Explore New Ways to Use Fruit

Not sure how to include 2 cups of fruit in your daily diet? It's not as hard as you think. Just have fruit as a snack once daily and include at least one fruit with every meal. For example, substitute an apple for cookies in your brownbag lunch, and you'll save calories while adding nutrients.

"Something that simple can really add up," Collins notes.

Does your family make the grill an integral part of summer dining? Be creative, Collins suggests, and you can easily add fruit to your plate. Grill some chicken, fish, or meat and then, before serving, top these simple entrees with a sauce made in your blender with fresh fruit or a fruit chutney that you can make in advance.

For a side dish, slice a peach in half, brush with canola oil, top with cinnamon, and add it to the grill, Collins suggests. Or layer a variety of fruits on a kebab stick, prepare the same way, and grill. The heat really brings out the sweetness of the fruit, says Collins.

"If you're looking for something cool in the evening, try a fruit smoothie instead of ice cream," suggests Collins. Made in a blender using fresh fruit, juice, and milk or yogurt, a smoothie not only gives you the nutrients of the fruit but also can have more calcium than ice cream—and a lot less calories. As healthful as fruit is, try to avoid too much snacking on fruit. Remember, fruit does contain calories and too many calories, no matter what the source, will cause weight gain.

Now Is the Time to Start Enjoying Fruit!

Summertime is a great time to get into the fruit habit because of the ready availability of fresh local fruit, which tends to be juicier and more flavorful than fruit that has been hauled over a long distance to the supermarket. Not only will your tastebuds thank you—your brain will, too!

Healthy Recipes

Four-Fruit Salad

Preparation Time: 10 minutes Number of Servings: 6 Cups of Fruit Per Person: 1

Ingredients

1 cup seedless grapes1 large apple, cut into slices1 cup orange segments1 large pear, cut into slices

Directions

Toss all ingredients together. Serving Suggestions: **1.** Serve on lettuce lined plate with scoop of low-fat cottage cheese and lite dressing. **2.** Serve in glass dish with scoop of sherbet on top. **3.** Serve in bowl topped with yogurt.



Fig Banana Smoothie

Preparation Time: 15 minutes

Number of Servings: 4

Cups of Fruit Per Person: 0.75

Ingredients

1 cup chopped dried figs (stems removed)

1 cup 1-inch banana slices

1 cup plain non-fat yogurt

3 cups crushed ice

1 Tbsp. honey

mint leaf or berry garnish

Directions

Place all ingredients except garnish in a blender (not a food processor), and blend until smooth, approximately 2-3 minutes. Strain liquid and pour into tall, chilled glasses. Add garnish.

Strawbrosia Parfaits

Preparation Time: 15 minutes

Number of Servings: 6

Cups of Fruit Per Person: 0.50

Ingredients

2 cups sliced strawberries

1 banana, sliced

1 orange, peeled and sliced (or 11 oz can mandarin orange segments)

1 cup cubed pineapple, fresh or canned

1 cup (8 oz carton) non-fat vanilla or lemon yogurt

1/4 cup grape nuts

6 mint sprigs

Directions

In a bowl mix strawberries, banana, orange, and pineapple. Pour orange juice over fruit and toss. Refrigerate until chilled. To prepare parfaits: Divide one half of the fruit mixture equally into 6 parfait glasses. Top with heaping tablespoon of yogurt. Add remaining fruit divided equally; top with remaining yogurt. Sprinkle each parfait with grape nuts. Garnish each parfait with a mint sprig.

These recipes were provided by FruitsAndVeggiesMatter.gov, a site sponsored by the Centers for Disease Control and Prevention (CDC), the U.S. Department of Health and Human Services, the National Cancer Institute, and USA.gov. Visit www.fruitsandveggiesmatter.gov for more recipes that will help you incorporate recommended daily servings into your diet.







ALZTalk.org, is a free and easy way to make new friends and stay connected with those in the Alzheimer's community. Join today to post messages and share pictures and favorite links. ALZTalk.org gives users a voice and allows them to share tips and stories about coping with loved ones with Alzheimer's. It also offers the ability to ask our experts questions no matter how large or small.





Visit ALZTalk.org for the most comprehensive Alzheimer's community resource online.

Brought to you by the Fisher Center for Alzheimer's Research Foundation and ALZinfo.org
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MetLife Foundation Awards Scientists for Research in Alzheimer's Disease



etLife Foundation recently gave their annual Awards for Medical Research in Alzheimer's Disease. Awards were given at a special scientific briefing and luncheon in Washington, DC, to three scientists who have all individually made significant contributions to the understanding of Alzheimer's by shedding light on beta-secretase and gamma-secretase enzyme activities in the brain—enzymes that play an important role in Alzheimer's disease. A past winner of this prestigious award is Paul Greengard, PhD, Nobel Laureate and director of the Fisher Center for Alzheimer's Disease Research at The Rockefeller University.

This year's award recipients were: Bart De Strooper, MD, PhD, of Belgium's K.U.Leuven and VIB-Institute, for his work on the cell biology of the amyloid precursor protein and gamma-secretase; Robert J. Vassar, PhD, of Northwestern University, for his research on the beta-secretase enzyme and molecular mechanisms of Alzheimer's disease; and Philip C. Wong, PhD, of the Johns Hopkins University School of Medicine, for his work on molecular mechanisms and experimental therapies for Alzheimer's disease.

The awards program began with each of the award recipients discussing their work. The briefing was moderated by Robert N. Butler, MD, president and CEO of the International Longevity Center-USA, and Professor of Geriatrics, Mount Sinai Medical Center in New York City. Dr. Butler is the founding director of the National Institute on Aging of the National Institutes of Health.

The History and Impact of the Awards

Since 1986, MetLife Foundation has granted major awards to scientists who have demonstrated significant contributions to the understanding of Alzheimer's disease. At the heart of the awards program is a strong belief in the importance of basic research, with an emphasis on providing scientists with the opportunity to pursue their ideas. This year's winners received a \$25,000 personal award, in addition to a \$175,000 award to each of their institutions, to further their research.

"The aging of the population means, unfortunately, that the impact of Alzheimer's will increase in the coming years," says C. Robert Henrikson, chairman, president, and CEO of MetLife, Inc. "The impact of Alzheimer's on families, society, and the economy is why MetLife Foundation has been committed for over 20 years to the search for a cure."

Worldwide, some 24 million people have dementia, with Alzheimer's disease being the most common cause of dementia. The social, emotional, and economic consequences of Alzheimer's are staggering, and are

expected to grow in the years to come, particularly in countries with large Baby Boomer populations, such as the United States. Presently, there are more than 5 million people with Alzheimer's in the United States alone. Direct and indirect annual costs of caring for individuals with Alzheimer's disease and other dementias, including Medicare and Medicaid costs and the indirect cost to businesses of employees who are caregivers of persons with Alzheimer's, amount to more than \$148 billion annually.

"These awards are an investment in the future. Scientists represent our best hope for one day finding the causes and treatments for Alzheimer's," says Sibyl Jacobson, president, MetLife Foundation. "We thank the awardees for their important contributions to the understanding of Alzheimer's and commend their continued dedication to scientific research."

"As the population ages, research on Alzheimer's disease has never been more important," says Dr. Butler. "If unchecked, the medical and caregiving costs could very well make Alzheimer's the most significant disease of this century. However, it's the personal costs that are truly staggering, because Alzheimer's gradually robs individuals of the person that they once knew. Through this annual award, MetLife Foundation has demonstrated sustained support for scientists working to unravel the mystery of Alzheimer's, by providing leading scientists with the funds to freely pursue their ideas and attest to the progress and promise of research."

The Work of This Year's Winners



Bart De Strooper, MD, PhD

Dr. De Strooper's

multinational research group has shown the central role of presenilin in the production of beta-amyloid in brain cells and the essential role of presenilin in the cleavage of the Notch protein, a major regulator of brain and immune function.

The two findings set the stage for worldwide efforts to identify gamma-secretase blockers to treat Alzheimer's without side effects caused by blocking Notch signaling,

and began a decade long inquiry involving researchers from more than 15 countries that has led to dramatic improvements in scientists' understanding of the gammasecretase protein complex. Most recently it has been shown that the gamma complex is actually four similar sub-

complexes, that one of the sub-complexes is more active in the brain, and that this sub-complex activity can be blocked without major side effects in mouse models. Dr. De Strooper's team is currently developing new therapies targeted at inhibiting gamma-secretase activity and screening drugs designed to do the job.



Robert J. Vassar, PhD

Dr. Vassar's latest work includes innovative explorations that could lead to gene therapy for the treatment of Alzheimer's. He and his colleagues are looking at whether RNA-interference of the beta-secretase enzyme known as BACE1 can be used to reduce plaque levels in mouse models of Alzheimer's. They have already shown that genetic deletion of BACE1 prevents beta-amyloid-

dependent memory deficits, brain cell loss, and plaques in mice. He is also working on the regulation of BACE1 in

the brain and the role the enzyme plays in the development of Alzheimer's disease.

Previously, while leading a research team at Amgen, Dr. Vassar and his colleagues were the first to clone and characterize BACE1 and subsequently set out to validate that it was responsible for wreaking havoc in the brain. By creating mouse models without the gene for BACE1, Dr. Vassar demonstrated that the brains of such mice were free of the beta-amyloid peptide and that the mice appeared otherwise normal. The studies reinforced that BACE1 inhibition is a very promising target for Alzheimer's treatment. The team's 1999 publication of their findings in *Science* magazine intensified scientists' investigations into beta-secretase and launched the quest for small molecule inhibitor drugs.

Dr. Wong was among the first to publish findings indicating the central role of presenilin in the development and regulation of the communication pathway between brain cells, known as the Notch signaling pathway. Dr. Wong's discovery that knocking out presenilin activity disrupts proper development of this pathway pointed to the need for therapies highly targeted to the specific secretase

Keynote Speech by Kate Mulgrew

The event's keynote speech was delivered by noted actor, author, and Alzheimer's advocate Kate Mulgrew. The popular actress, who has appeared on television, stage, and screen, mostly notably as Captain Kathryn Janeway in *Star Trek: Voyager*, has had a long-standing commitment to Alzheimer's and her recollections of her mother, who had Alzheimer's, are found in the recently published book, *Voices of Alzheimer's*, and were also published in the Winter 2007 issue of *Preserving Your Memory*.

Ms. Mulgrew's speech has been reprinted here for our readers: I'd like to first thank the MetLife Foundation for their extraordinary generosity to Alzheimer's research. Apparently, someone very high up understands the urgency that this disease inspires, and has both the compassion and the wherewithal to act on it. I would also like to congratulate the scientists who are being honored today, not only for their accomplishments, but for their essence: They are the rara avis. Against all odds, they persevere, and in so doing, save us all.

I'm at a stage in my life where, finally, I can accept that almost all experience is bittersweet—and I can accept, too, the inevitability of death. I think I will neither fear it nor welcome it, as long as I can face it squarely and with some dignity. After all, we have no say over our entrance into this world—the least we can ask as human beings is to go clear-

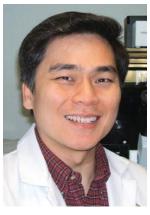
eyed and honest into that good night.

My mother's name was Joan but everyone called her Jiki. The bookends of my mother's life reveal the full irony of her story. Her own mother died in childbirth stamping my mother, before she could even speak, with a wild hunger and a deep and solitary grief.

These currents ran through my mother all her life and, though they defined her, they did not deter her from living the life she chose. She learned the gifts of passion and friendship early on, and when she stumbled upon my father, she recognized a kindred spirit, and so they ran off together and had eight children in quick and alarming succession. I was her second born, her first girl and, as she would later say (to the surprise and occasional horror of anyone who would listen): "Kitten was my first daughter so, of course, she was my favorite—she was the mother I never had."

She buried two of her eight children when they were very young; Maggie, as a baby, and Tessie, of a brain tumor, when she was fourteen. This last was a mortal blow and nearly cost my mother her marriage and her sanity. She rallied, however, and with Baruch Spinoza as her mentor and art as her creative furnace, she became a celebrated painter, a maverick personality, a remarkable example of grit and depth, wit and daring—we all loved her quite madly.

For her 70th birthday, I took my mother on a cruise up The Aegean Sea. One night, looking at the Turkish moon and



Philip C. Wong, PhD

enzymes involved in amyloid beta production.

Influenced by Dr. Robert Vassar's work, Dr. Wong's team moved quickly to develop mouse models with the BACE1 gene knocked out, and validated that the enzyme is an attractive therapeutic target for Alzheimer's. Examining the neurons of his mice, Dr. Wong demonstrated that while beta-secretase elimination could have adverse effects

on a developing brain, these effects may not show up in a mature brain. Dr. Wong turned his attention to the second cleaver in the beta-amyloid production process, gamma-secretase. Ongoing research on gamma-secretase has led to the discovery that it is not a single protein enzyme but rather a series of enzyme complexes comprised of four different proteins. By developing mouse models with each of the gamma-secretase genes knocked out, Dr. Wong's team showed that moderate inhibition of gamma-secretase

drinking Irish whiskey, she wanted to talk about sadness. She told me that the greatest sorrow of her life was that she had never stopped searching for her mother and, whereas she knew this was emotionally irrational, she could manage it as long as she was intellectually sound. "My brain is the superior organ, and it gives me all my happiness," she said. "I can read, paint, play the piano, laugh at your father, I can think and I can love. Want to know how special the brain is?" she asked, pointing to the sky. "I can see the moon, but the moon can't see me."

A month later, she was diagnosed with atypical Alzheimer's disease. She begged me to help her find a way out of the nightmare but, of course, I didn't. I couldn't. You understand.

Instead, I just watched. I watched as my father, furious with denial, slowly disintegrated, until one day he crawled into his bed and died there, two weeks later. Cancer, they said, cancer everywhere—in his lungs, in his chest, on his brainstem.

I watched as my siblings, once so funny and charming and irreverent, grew confused and suspicious and, unable to sever the bond they had always known with their mother, severed it with one another, instead.

I just watched. Of course, I was dutiful and vigilant. I learned how to change her diapers, how to bathe her, how to put the spoon to her mouth. I did all of this with a smile and studied, stupid expressions of affection.

One day, eight years after her diagnosis, she simply refused the spoon—and shortly afterward, she refused the water.

provides benefits in the brain without adverse side effects. His latest work includes the development of methods to deliver therapeutic drugs designed to inhibit beta- and gamma-secretases directly into the brain to avoid the side effects of treatment outside the brain.

About MetLife Foundation

MetLife Foundation has supported Alzheimer's disease research and outreach activities for more than 20 years. The Foundation has awarded over \$11 million in grants through its Awards for Medical Research in Alzheimer's Disease program. For information about MetLife Foundation, please visit www.metlife.org.



But even then she held on as, one by one, all of her children embraced her and bade her good-bye.

I was the last to kneel by her side and, looking into her eyes, I gave her a walloping dose of morphine and, as I cradled her head in my arms, I wept and begged her forgiveness—because I had born witness to this final mortification. My mother died with her eyes wide open—unseeing, senseless, and without a shred of dignity.

It looks like I may well be the genetic heir to this same fate—that is, if I am truly my mother's daughter—and so I urge science, on behalf of my glorious and unexpected mother, to work hard and demand much and strive passionately to control this disease, so as to spare my own sons the ultimate mortification of having to bury a mother whom they love deeply but who, herself, no longer knows or cares what love is.

Planning for the Well Spouse

hen a spouse becomes ill, the well spouse is suddenly faced not only with the emotional toll, but the burden of

handling all the financial responsibilities and long-term planning on his or her own. If the ill spouse always handled the financial matters, even paying bills can be overwhelming. But regardless of who kept the family books, often the other spouse is in the dark on the family's financial matters and recordkeeping.

Additionally, the well spouse may not know what long-term planconsiderations have been made for him or her, or what is even available. This article will provide an outline of things to consider and steps to take when the financial responsibility and long-term care planning burden passes to the spouse who has generally not had to deal with these issues previously. Though not always possible, it is important to be as proactive as you can and review and familiarize

yourself with these matters before a spouse becomes ill.

Locate and Organize Documents

First, it is very important to locate

and organize your documents to see what you have, what long-term planning is in place and what needs to be updated. Items to look for include:

It's important to develop an understanding of your family's financial matters.

- Identification documents: Social Security card, Medicare card, birth and marriage certificates
- Military records
- Insurance documents: including,

health, automobile, homeowners, life, long-term care

- Legal documents: last wills and testaments, trusts, and advance direc
 - tives (power of attorney, health care proxy, living will, HIPAA release, and burial designation)
 - Financial information, including bank, brokerage, and retirement accounts; stocks and bonds; income; tax records; debts; and bills
 - Any other important items, including: the deed to your home, title and registration to automobiles, and safety deposit box

Understand Your Present Situation

Once you locate your documents, it is important for you to learn what they are and what purpose they serve. Understand what your assets and expenses are. Regarding your assets, careful analysis should be made as to what type of account(s) you have, how much money is in it, how the account(s)

is(are) titled (who owns it) and whether there are any beneficiaries.

Know what your income is and where it comes from. Does your spouse receive a pension? If so, will it continue if he/

she predeceases you? Do you have any retirement accounts (including IRAs, 401(k)s, profit sharing plans) that you are required to take minimum distributions from because you have reached the age of 70½?

Important resources are available to aid you with this undertaking. Many senior centers offer programs to assist with managing household finances and bills. They also may have volunteers who will review your Medicare coverage with you as well as your medical bills so you understand what you are being charged. If your spouse dealt with the same bank for several years, he may have developed a personal relationship with them and they may work with you to review your accounts. Additionally, an elder law attorney can play a vital role in making this process easier for you. He or she can meet with you either at your home or in the office and go through and explain all of your paperwork with you.

Simplify Your Life

You can set up automatic bill payments to have your utility, insurance, and telephone bills paid directly from your checking account every month. If your spouse always prepared and filed income taxes on his or her own, perhaps it would ease the burden for you by hiring an accountant to prepare your taxes.

Social Security

If your spouse dies, it is important to contact the Social Security Administration to advise of his or her death and to make sure you receive all of the benefits to which you may be entitled. You may be eligible for a one-time payment of \$255. Also, if you are considered full retirement age for survivor's benefits, as defined by the Social Security Administration, you can receive Social Security benefits based upon your deceased spouse's earning record. This can be a significant amount if you either did not work outside of the

home or earned less than your spouse during the time you were employed. It is important to know that your full retirement age for retirement benefits may be different from your full retirement age for survivor's benefits. Also, if you are receiving survivor's benefits you can switch to your own retirement benefit if your retirement rate is higher than the rate you are receiving for survivor's benefits. The rules are complicated, and, therefore, it is important that you carefully consider all your options before making a final decision.

Health Insurance

You need to understand what type of health insurance coverage you have, including Medicare. If you have Medicare, review whether you have Part A, Part B and/or Part D. Also, if you and your spouse have a retiree health plan through your spouse's former employer, does it continue if your spouse predeceases you?

If it does not, you may be eligible for COBRA. COBRA is federal legislation that allows former employees, retirees, spouses, and dependent children to temporarily continue group health coverage that would otherwise be terminated. If you are covered by both Medicare and a group health plan as part of your spouse's retirement and your husband dies, then you may have the right to elect COBRA continuation coverage with respect to the group health coverage for the maximum period of coverage available (18 to 36 months). If you become covered by Medicare at any time after an election of COBRA continuation coverage your COBRA continuation coverage will probably end. It is important to know that you only have 60 days from the date of your spouse's death to elect COBRA coverage so action must be taken promptly. Also, CO-BRA coverage can be very expensive (i.e., employer can charge up to 102 percent of the employer premium). The additional 2 percent is designed to cover administrative costs.

Legal Documents

Make sure your legal documents are in order and up to date. Set up an appointment with your elder law attorney to review them. If your spouse has become ill, consider appointing someone else as your executor under your will or as agent under your power of attorney and health care proxy. You should review with your attorney whether you need to establish a trust to protect your assets should your spouse need long term care either in a nursing facility or at home.

Long-Term Care

Long-term care is not limited to nursing homes. Today, most care is received at home and it is important for you to understand what options you have available to you and your spouse. Review whether you have long term care insurance and what coverage it provides. It is important to familiarize yourself with the differences between Medicare and Medicaid and what each program can offer you. Geriatric care managers are available to assist you with care planning assessments and provide solutions to your individual long term care needs.

If possible, it is important to review, understand, and work on these issues. The more familiar you are with these responsibilities, the more comfortable you will become with them and less fearful of handling them on your own. It will help ease your burden and provide peace of mind so most of your attention can be paid to your ill spouse.

Bernard A. Krooks, J.D., CPA, LL.M (in taxation), CELA is immediate past President and founding member of the NY Chapter of the National Academy of Elder Law Attorneys and a nationally known and widely quoted expert on elder law. For more information, visit the firm's website at www. littmankrooks.com.



Your Loved One's SUMMER

ong daylight hours and a relaxed dress code make summer the perfect time of year to get out of the house and enjoy the great outdoors. And while there are many activities for the young, there are also plenty for the young at heart. Here's a list of outdoor activities that are suited for Alzheimer's patients and their caregivers. Try to incorporate these activities into a regular schedule, when possible. Regularity is generally important for a person with Alzheimer's. It reduces anxiety and stress when the regular activity is enjoyable.

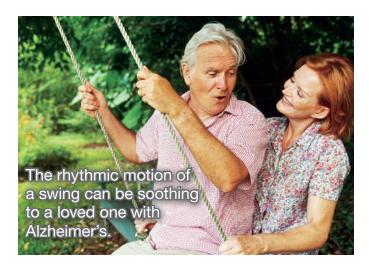
1. Take an early morning or late afternoon stroll.

Studies have shown that simple evergise on a routi

Studies have shown that simple exercise on a routine basis, such as taking a walk every day, may help improve mood and decrease anxiety in Alzheimer's patients.

By getting out in the early morning or late afternoon, you can still enjoy a reasonably comfortable walk while avoiding mid-day heat.

2. Shop at a farmers' market. Summer is the prime time to shop farmers' markets. There are numerous crops in season June through September, which means there will be a variety of fruits and vegetables—straight from the farmers who grow them. Many of these markets have outdoor stands during the summer months, so you can spend time outdoors while hunting for nutritious, memory-preserving foods such as carrots and leafy greens. Plus, seeing colorful foods can lead to better eating habits in people with Alzheimer's.



- 3. Spend time on a porch swing. The image of a swing softly swaying on a front porch is a slice of Americana. Whether it brings back memories of a scene from *The Andy Griffith Show* or just a lazy summer evening from your own childhood, it's sure to ignite pleasant memories. Plus, the rhythmic motion of the swing can be soothing to a loved one with Alzheimer's.
- 4. Visit a local park. Have you checked out your city's parks and greenways lately? Most parks no longer consist of just a playground and a duck pond. These days, city parks are professionally landscaped havens filled with beautiful vegetation, meandering walking trails, and even sculptured art. A park can be a peaceful place for walking or just meditating on the beauty of your surroundings, and this environment can provide stimulation in a low-stress setting. But make sure the person with Alzheimer's is comfortable and not intimidated, even by what seems to you to be a friendly environment. This is why keeping to a regular schedule is important in caring for a person with Alzheimer's—regularity can lead to familiarity. Contact your local parks and recreation department to locate parks near you.



5. Bird watch in your back yard. Bird watching is a popular hobby in the United States. It's something that can be enjoyed by the entire family, and it only requires a pair of binoculars or just your own two eyes. It will allow you to discover the variety of birds in your own region—even in your own neighborhood—while letting you view the habits of our feathered friends. You might even want to add bird feeders and birdbaths to your property to attract a greater assortment of birds.



6. Enjoy a concert in the park. If you want to enjoy outdoor music, summer is the time to do it. Parks, as well as outdoor arenas and shopping centers, are likely to have some kind of live music at least once during the season. If you plan on attending one of these events with your loved one, you might want to attend a concert that features music you know the person with Alzheimer's likes. Outdoor concerts may feature more easy-going music, such as string quartets or jazz ensembles. Some may highlight big band or beach music—genres that could bring back memories for you and your loved one. Be cautious of crowds, however. A person with Alzheimer's may feel anxious and helpless around strangers or groups of people.

(If you'd like to learn more about how music can trigger memories in Alzheimer's sufferers, view our spring 2008 edition of Preserving Your Memory at www.alzinfo.org/spring08.)

7. Explore your city's downtown district. Instead of getting in your car to drive from one shopping center to another, take your errand list downtown and walk from store to store. Main Street USA is no longer a neglected, irrelevant part of American communities. The latest trend in towns big and small is the revitalization of downtown districts. Business owners are refurbishing historic buildings that were once in danger of being condemned

and making them part of unique shopping, art, and historic districts. Exploring the businesses in your city's downtown district can be quite fun. Where else can you find a 100-year-old jewelry store in-between a frozen yogurt shop and a historic marker? Certainly not at a strip mall.

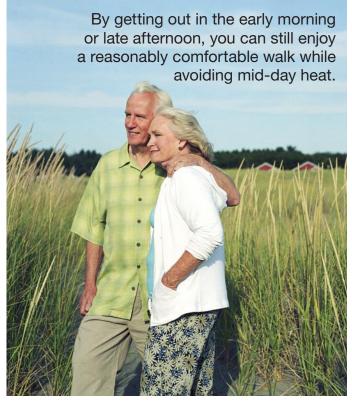
8. Stargaze on a clear night. Summer is one of the most temperate times to sit outside on a late evening. Stargazing can include the use of a telescope, or just the naked eye. Check your library or the Internet for guides on the stars, planets, and constellations visible in your hemisphere at any given time. By following the local news, you can also find out when a meteor shower is likely. Just remember: A person with Alzheimer's generally doesn't function as well in the evening. This is called "sundowning." If this is applies to your loved one, stargazing may not be the right activity for him or her.



- 9. Collect seashells. Whether you live by the sea or only make an annual visit, shell collecting can be a quiet, simple activity to share with your loved one. The sound of the waves and the texture of the sand can be soothing, while looking for shells can provide a sense of adventure to your outing. You may even find that the person with Alzheimer's is captivated by handling the shells. Later, you can incorporate the shells into decorative or craft projects so that your family will be reminded of the beach all year long.
- 10. Have a picnic. A picnic is an easy way to spend time outside, and you can have one anywhere—on your patio, at a park, on the beach. And as far as the food goes, you can pack sandwiches, pick up some takeout to bring with you, or grill out in your backyard. Regardless of what you eat or where you eat it, the joy of a picnic is in setting aside a special to time to dine with friends or family in a relaxing environment.



Spending time outdoors is an important way to help your loved one with Alzheimer's disease remain connected to the world around them. Several recent studies have shown that recreational activities, similar to those listed above, improve the symptoms of Alzheimer's in terms of reducing disruptive and agitated behavior. Even more strikingly, Alzheimer's patients have shown improvement in memory and in activities of daily living after recreational stimulation. In fact, compared to cognitive therapy alone (e.g., memory exercises), recreational therapy appears to lead to a greater improvement in functional status. So, try out some (or all) of these activities this summer to interact with nature—and others—in safe, fun, and beneficial ways.



"Scientific discovery brings new hope for memory preservation."

~Journal of Experimental Medicine

NA (short for ribonucleic acid) has been known for nearly half a century to be used by cells to make proteins. More recently, a new kind of RNA was discovered. Because of the small size of its molecules, compared to other forms of RNA, this new type was given the name "micro" RNA. Research has shown that microRNAs help regulate the functions of genes.

New research from the Fisher Center for Alzheimer's Research at The Rockefeller University shows that when brain cells are prevented from producing microRNAs, they slowly die in a manner similar to what is seen in Alzheimer's disease and other human neurodegenerative disorders. In the *Journal of Experimental Medicine*, Fisher scientists say that although no one has yet found microRNAs to be involved in any disease, their study in mice shows that these tiny snippets of RNA are essential for survival of mature brain cells, also called neurons.

"This research tells us that microRNAs are needed if certain neurons are to function and survive, and that means they are likely involved in survival of other neurons as well," says the study's principal investigator, Dr. Paul Greengard, Nobel laureate and director of the Fisher Center for Alzheimer's Research. "That leads us to hypothesize that abnormalities in microRNA expression might be causing or modifying disease progression." This means that if micoRNAs are not produced properly in brain cells, disease is likely to occur.

To find out what role microRNAs



Anne Schaefer, PhD, MD, a postdoctoral fellow in Dr. Greengard's lab.

play in the brain, the research team bred mice in which a gene known as "Dicer" could be "turned off" at any moment desired. It was previously known that Dicer is required for the production of microRNA. So by turning it off in mature neurons, the scientists could determine whether these mature cells still needed microRNA to function and survive. The scientists chose to turn Dicer off in a type of neuron that was known to affect movement. The mice then began to show symptoms of movement disorder, reminiscent of human neurodegenerative disease. At the same time, the neurons in which Dicer was turned off began to die.

These tests suggest that if microRNAs began to lose function in other types of neurons, such as those involved in memory and higher thinking, a condition similar to Alzheimer's might develop, says the study's lead author, Anne Schaefer, PhD, MD, a postdoctoral fellow in Greengard's lab. These findings are "very exciting," she says.

Since their discovery in 1993, microRNAs have been found to have powerful effects on genes in cells that are still developing. For example, developing neurons make a large variety of microRNAs, Dr. Schaefer says, and the development of these brain cells stops if microRNAs are prevented from functioning. While these bits of RNA were also known to exist in mature neurons, no one knew if they played any role in the life of adult neuronal cells, she says. The discovery that microRNA affects mature neurons suggests that they function in the adult brain.

Whether changes specific microRNAs contribute to human disorders, like Alzheimer's disease, remains to be seen, says Dr. Schaefer, but now researchers have ways to test that. They can compare microRNA expression between normal Alzheimer's human brains, and they can knock out specific microRNAs in an Alzheimer's mouse model to determine which may be playing the more critical roles. "Now we have a roadmap for identification of genes that might be involved in neurodegeneration, and that is very exciting," Dr. Greengard says. ■

A Taboo Moment

Christina Angelacos shares an excerpt from her caregiving memoir.

s always, my trip felt too short. There was never enough time to get it all done. There were always so many requests, so many adjustments, so many to-dos that I never left my father and returned to New York feeling a sense off accomplishment.

I had 45 minutes to say goodbye to Dad before heading to the airport. His last request before I left was to help him with "the voices." Apparently, the neighbors next door were keeping him awake at night with their mumbling. At this point, I still took everything seriously—taking great care to ensure each time before I flew home Dad was left in good spirits, as comfortable as possible, with all adjustments made, and all items crossed off the list. But this current request was a bit more complicated than the others.

I racked my brain for a useful quick fix—one that would help him and still get me back to New York on the last flight out. I was desperate for a 30-minute solution. I could pass the buck to the ladies at the front desk, but I knew once I walked out that door it would be dropped. One of those Zen alarm clocks with crashing waves or thunderstorms might do the trick, but my chances of making it to Walgreens before closing were slim. I considered just knocking on the door and talking to the neighbors myself, but there was no way to accomplish a polite sit-down in 30 minutes or less

I had a half hour to come up with an answer and I could feel my anxiety mounting. I considered the ridiculousness of my own anxiety as I wondered to myself if he even

remembered complaining about the neighbors in the first place. Then the semi-rational idea hit me: "OK, Dad, here's what we'll do: We'll move your bed to the opposite side of the room so you won't hear your neighbors so much." It wasn't the most elegant solution, and certainly not the most efficient, but it was the best I could do in ... 28 minutes.

It seemed like an easy enough task. His bed was small beneath the disheveled sheets. My plan was to maneuver his bed into a 90-degree angle then shove it into the opposite corner of the room. Now I had 26 minutes to complete my mission. But as I reached 45 degrees I noticed something was wrong. The left side of the bed was no longer moving. I shoved harder and felt an unrelenting pull on the carpet. Something was stuck, hard. I peered underneath to find one of the wheels was completely missing from the frame. Dad had actually been sleeping on a lopsided bed and never knew the wiser. I glanced at my watch ... 19 minutes and counting.

Inch by painstaking inch I tried twisting and turning each corner but without the fourth wheel this was a mere impossibility. I began to sweat. The metal continued to grind further into the thickness of the carpet. Suddenly something gave and half of his bed came flying two feet out from under me. The frame slid completely off-track and was now totally unhinged; the front and back portions of his bed fully separated. I cursed under my breath ... 12 minutes.

Still sweating, I dropped half the bed and reached to open his window for relief. I pulled the metal lip of the window hard, irritation building with every bead of perspiration that dripped from my forehead onto the clamped sill. Locked. Of course. Some sort of senior-proofing fixture had been installed to keep disgruntled residents from hurling themselves out the window, which was a thought I was seriously considering at the time.

Then I fiddled with the digital display on the air conditioner, pressing the down arrow in a mad frenzy with no luck. It was frozen at 78 degrees. I tried unplugging it then plugging it back in. I slammed the display pad with my sweaty fist. Nothing. My blouse was soaked, my hands were slippery, and my watch kept ticking ... 8 minutes.

I looked behind me at my father's broken bed. He probably doesn't even remember that people live next door, and I've broken his poor little bed and messed up his room—his un-matching sheets now strewn across the floor, the skinny mattress bending at the center. I was supposed to make it better but I made it worse. And to top it off, I had to fly back to New York and leave him with his messy broken life.

I could feel the guilt descending like a storm cloud, then the tears ... no, he cannot see me like this. I only had 5 minutes to clean up the ridiculous mess I created and do right by Dad. With one final surge, I lifted the mattress with one arm and strained to connect the metal fame with the other. It was a ludicrous, senseless attempt. Within two seconds I was sitting on the floor defeated. I was as broken as his bed—beaten, flattened. I'd lost it, despite my valiant attempt to stifle the sobs as the tears came streaming.

"Honey?" My dad was in the doorway. I can only imagine his alarm as he surveyed his disassembled bedroom. didn't answer. I sat on the floor with my back to him, frozen. He couldn't see me break down like this. This was a taboo moment. He could never know that anything I did for him hurt me. He could never know things were tiring or burdensome or heartwrenching like this. He was supposed to let me take care of things like a good daughter would; he was never supposed to know this was killing me.

"Honey?" He asked louder this time, his voice thick with concern, which made me cry even harder. "It's OK, Dad," I said, trying my best to sound normal. "I can take care of it—just go back in the other room, OK?"

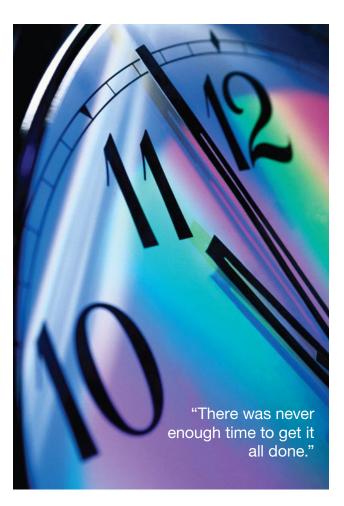
But he didn't say OK.

"Honey? Are you hurt?" He started toward me.

"No, Dad. It's OK—SERIOUSLY." I said louder as if the volume of my voice would stop him. But it was too late, and he was directly behind me, hand on my shoulder—much too close for me to stave him off with words, no matter how loud or seemingly authoritative.

I had to look up, to face him in all my brokenness. I turned around to his embrace and lost control, the tears now coming hard and fast. We were both crying now, and for a fleeting moment I succumbed to being his little girl again, allowing him to comfort and protect me one last time. "Honey, I'm sorry you're hurt," he said. And I was. I was more hurt than I have ever been in my life, but not in a physical way.

It was the first time I'd seen my father cry. Thankfully, he was convinced I'd somehow injured myself while moving his bed, and his attempts to soothe me were just the same as if I'd had fallen off my bike and skinned my knee. But my



sadness was far more permanent. I held onto him tightly and sobbed in his ear, "Dad, I'm so sorry," I said between sobs. "I didn't want you to see me like this."

"It's OK, honey," he kept repeating.

It was at that point our roles reversed, and we cried because we didn't want to let go of the relationship as it was, and as it had been for the past 34 years.

I missed my plane that night. I never told my father; I just checked into the Marriott down the street and collapsed. I sat in the anonymity of the hotel room and broke down where no one could see. I pondered that taboo moment when my father caught me crying and childlike. I played the scene over and over in my mind, the two of us hugging and crying, clinging to that delicate bond we shared as father and daughter—so unready to let go. Our roles were inevitably reversing, and neither of us could halt the progression. We said our goodbyes

that night. The exchange was a final farewell to the familial roles we once knew. It was the most melancholy yet poignant milestone we'd ever shared.

I realized that day that my father's disease could be dealt with in two ways. One way was to dwell on the problems and the attempts to incessantly aid the symptoms and handicaps—the things to-do lists are made of. I thought if I could somehow make Dad's life easier, it would relieve me of some of the guilt. But the chores never end, and the lists just seem to multiply. There is never enough that can be "done" to cater to the handicaps.

After that day I learned to view the time I spent with my father in a different light: To weigh our moments together as quality rather than quantity. At the beginning, I didn't want to view my father in a reversed role.

I secretly wished he would remain "Dad," just as he always had, but with a few handicaps—things that could be fixed.

It took courage to face the truth and accept Dad as he is, rather than as he used to be. Only after I acknowledged Dad's Alzheimer's completely, with all of its misgivings, did I learn to relax and enjoy my time with him—not as much in the doing, but in the being.

By Christina Angelacos, New York

We'd Love to Hear From You

Join Christina, and share your caregiving story with other readers. Contact The Fisher Center for Alzheimer's Research Foundation, West 46th Street & 12th Avenue, New York, NY 10036, or e-mail them to betsey@alzinfo.org

Easy Summer Gardening Soothes the Soul: Tips from Gardening Expert and HGTV Host Justin Cave

Learn about the benefits of gardening for Alzheimer's patients and their caregivers.

orking in a garden can make you feel like a kid again. Feeling the sun on your face, digging your hands in the dirt, and watching with wonder as plants blossom and bear fruit can evoke warm childhood memories. As an adult caregiver, sharing these simple joys can lighten your heart and provide physical and mental benefits to both you and the person for whom you're providing care.

"Gardening is beneficial for people of all ages," says Justin Cave, host of the new Home & Garden Television (HGTV) show *Ground Breakers*. "A vegetable garden is a great way to get physical activity, and it can add nutrition to your routine."

Garden tasks are simple, repetitive chores that relieve stress and provide a sense of accomplishment. Just try pulling some weeds or picking the first tomato of the season, still warm from the sun, and you'll understand why gardening can be so rewarding. Scientists suggest that the mental and physical stimulation produced by activities like gardening might stimulate production of new brain cells in the hippocampus, the part of the brain that processes recent memories.



Justin Cave, host of HGTV's Ground Breakers

Grow Some Muscle

Gardening provides a great workout. Digging, raking, and hoeing stretch and strengthen muscles. Working in a garden is an excellent form of exercise for elderly adults and actually may help many people with dementia feel better, both physically and emotionally. According to the Mayo Clinic, exercising as little as 20 minutes, three times a week provides a boost in mood, a de-

creased risk of falls, reduced wandering, and delayed nursing home placement for people with Alzheimer's disease.

As a caregiver, you may view gardening as too labor-intensive, but working with nature does not necessarily mean a lot of time or extra work. Caring for a garden can be as ambitious as growing a variety of vegetables in your backyard to simply planting a small container of herbs on your windowsill.

Whether growing a garden indoors or outside, Cave recommends easy gardening jobs to get a person with dementia involved, such as pulling weeds, deadheading flowers, watering plants, and picking vegetables. Although some chores, like pruning shrubs or trees, may be too difficult for an adult with

Alzheimer's, there are many simple tasks that anyone can do, like collecting coffee grounds and eggshells to start a compost pile.

If you have a yard, raking leaves or sweeping grass clippings off the sidewalk can provide a sense of accomplishment for a person with dementia. "It can be something as simple as going out in the yard and filling the bird feeder," Cave says.

A person with Alzheimer's who may not be able to participate in gardening tasks can still enjoy the experience of being around plants and trees while you work, says Cave. "Push the wheelchair outside in nature so you can talk to your loved one while working."

Revive Your Senses

Working outside in the wind and sun with the sounds of insects and birds and the smell of grass and blooming flowers is

a refreshing change and mental release for anyone who spends a majority of time indoors. Just smelling a fragrant herb or seeing a brilliant flower can spark conversation and coax a smile.

Cave says spending more time outside is helpful not just for adults trying to preserve memory, but for people of all ages. Gardening is a sensory experience, from feeling a summer breeze on your cheek to gathering colorful vegetables. The smell of freshly mown

grass or the chirping of birds can bring back warm memories of the past, even for people with dementia. Most of us recall helping or watching our parents nurture house plants, grow a vegetable garden, or work in the yard when we were young.

Cave's grandfather was diagnosed with Alzheimer's disease two years ago, and he recalls how much his grandfather enjoyed working with nature. "He used to have a vegetable garden," Cave says reflectively of his grandfather. "He seeded the garden, which is the old timer's way."

Keep it Simple

You may not have the time or energy to cultivate a full-size vegetable garden, but you and your loved one can still reap the rewards of gardening. Container gardens, planted indoors or outside on a deck, porch, or patio, are an easy option. Pots of small vegetables, flowers or herbs are versatile and simple to maintain.

A sunny kitchen windowsill is the perfect spot for an herb garden. Grow your own rosemary, thyme, mint, basil, and sage, either individually in their own terra cotta pots or together in one long window box.



"Gardening is beneficial for people of all ages."

– Justin Cave

Vegetable and herb essentials for favorite recipes can be planted in one container and placed outside on a back porch for convenient gardening that only requires stepping outside the door. Oregano, basil, red peppers, and onions can be planted together for pizza lovers, while a container garden of onions, tomatoes, cilantro, and chili peppers provide all of the ingredients for making spicy, homemade salsa.

Whether your container garden is indoors or outside, the key to choosing the right container is to make sure it has good drainage holes, recommends HGTV. Adequate drainage from watering prevents the plant's roots from constantly sitting in water, which can rot the root and kill the plant. The container also should be at least 10 inches

deep for vegetables or perennials.

Your container garden also should have adequate sunlight. For example, leafy vegetables such as cabbage and lettuce do well with more shade, while vegetables like cucumbers and tomatoes need much more sun. Cave says all indoor container gardens should be located near a window exposed to at least four to five hours of sun each day.

Cave suggests purchasing flats of flowers and plants for "instant gratification,"

rather than starting plants from seed. Pots can become heavy once the potting soil and plants are in place, so sit larger container gardens on a plant caddy—a caster on wheels—to make them easier to move.

Enjoy the Show

"At the heart of gardening there is a belief in the miraculous," writes English author and gardener Mirabel Osler. Gardening brings joy into our lives, from the antici-

pation of waiting for the roses to bloom to discovering a ripe melon hiding beneath a cover of vines and leaves.

Working in a garden offers a bounty of benefits for both caregivers and loved ones with Alzheimer's, including stress relief, exercise, and simply the pride from growing and harvesting your own herbs and vegetables. Plus, it's always rewarding to share a basket of extra tomatoes, fresh basil, or green peppers with your family and neighbors.

Can't you just smell the rich, loamy scent of the earth as you dig your hands into the dirt? Cultivating a garden is satisfying work, from planting, watering and weeding to simply stepping back and enjoying nature's show, for both Alzheimer's sufferers and caregivers alike.

Do you have a question you would like to ask the experts at the Fisher Center for Alzheimer's Research Foundation? If so, please call 1-800-ALZINFO, visit ALZinfo.org, send surface mail to Fisher Center for Alzheimer's Research Foundation, West 46th Street & 12th Avenue, New York, NY 10036, or e-mail info@ALZinfo.org.

Summer Safety Tips

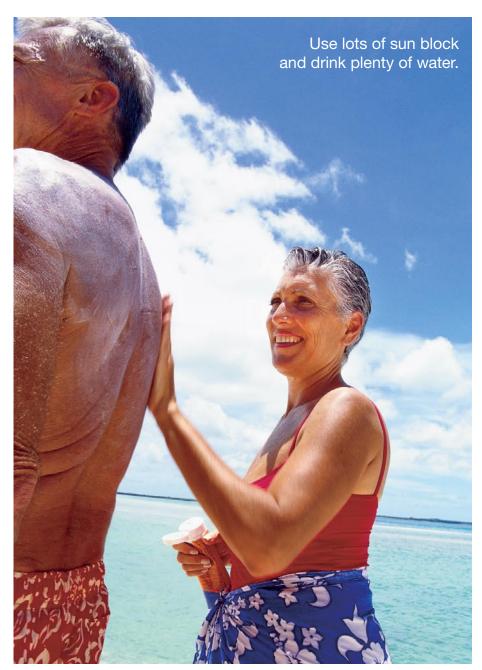
Q: Experts say that exercise and outdoor activities can be important for Alzheimer's patients, as well as anyone trying to stay healthy, but is it really safe to spend time outdoors during the summer months?

A. Yes. As long as you're cautious, summer can be a wonderful time of year to spend outdoors (See our article on page 20 for a list of outdoor activities you can try with your loved one this summer.) And you're right that doing so can be beneficial to persons with or without Alzheimer's. In fact, studies show that physical as well as visual access to nature helps people recover from illness guicker, reduces stress, and lowers blood pressure. And spending time outside helps a person maintain circadian rhythms (the sleep/wake cycle). In addition, spending time outside might also help ensure the person with Alzheimer's gets beneficial exercise.

Here's a look at general summer safety guidelines for everyone:

Be Safe in the Sun

The sun supports life, but it poses risks, too. What are the dangers of too much sun? Skin cancer and heat stroke



are two of the most serious, but sunburn, dehydration, and heat exhaustion are also potential problems. To avoid ill effects of sun exposure, follow these guidelines.

Avoid spending prolonged periods

of time outdoors from 10 a.m. to 4 p.m. The sun is most direct during these hours, increasing the likelihood of sunburn.

- If you are outside during the middle of the day, seek shade whenever possible, don't overexert yourself, wear clothing that covers exposed skin, and wear a wide-brimmed hat. Use lots of sun block and drink plenty of water.
- Wear sunglasses that block 99 percent to 100 percent of UV rays.
 When the eyes are chronically exposed to the sun, they become more vulnerable to cataracts and a host of other problems.
- Be aware that the elderly, small children, and people with health problems are more at-risk of heat stroke and heat exhaustion.
- Check the UV Index. Developed by the National Weather Service and the EPA, the UV Index forecasts the expected risk of overexposure to the sun, and how much protection should be taken when outside. The UV Index can be found in your local newspaper, on radio and TV news reports, and on the Internet.

More sun safety information can be found online at the EPA's SunWise School Safety site, at www.epa.gov/ sunwise.

Be Safe in the Water

Aquatic exercise can be a great part of any fitness regimen (See page 30 for an article on this topic.), but you should always exercise caution around water. According to the Centers for Disease Control and Prevention (CDC), drowning is the fourth leading cause of death in the United States, claiming 4,000 lives each year.

Here are some water safety tips from the National Center for Injury Prevention and Control (NCIPC):

 Neither adults nor children should swim alone or without a lifeguard present.



- If you have a swimming pool at your home, install a four-sided, isolation fence with self-closing and self-latching gates around the pool. The fence should be at least 4 feet tall and completely separate the pool from the house.
- If you don't know how to swim, enroll in a swim class.
- Learn how to perform CPR (cardiopulmonary resuscitation)—it is particularly important for anyone involved in water recreation.
- It is important to refrain from drinking alcohol before swimming, boating, or water skiing.
- Swimming in the ocean requires several precautions. Thunderstorms and strong winds are dangerous to swimmers, so know the local forecast and weather conditions. Always swim within the area designated, usually marked by buoys. Watch for rip currents, which are fast moving flows of surface water that move out to sea. They can sometimes be recognized by unusually calm water, water of a different color than surrounding water, and a low water line near

the shore. If you're caught in a rip current, swim parallel to the shore until you are out of the current.

For more water safety information, visit the NCIPC drowning prevention webpage at: www.cdc.gov/ncipc/factsheets/drown.htm

Be Safe on the Road

Many people travel by car to their summer vacation spots. To avoid driver fatigue and stay alert on your journey this summer, the National Safety Council recommends the following:

- Get plenty of rest the day before you leave.
- Don't drive alone.
- Don't set the cruise control—do the driving yourself.
- Keep the temperature cool.
- Play the radio.
- Stop every two hours to stretch your legs.

Be Safe in Your Environment

Whether you're enjoying a picnic in the park or an evening in your backyard, follow these additional precautions:

- Pay attention to air quality. Ground-level ozone can form on hot summer days, making breathing difficult, particularly for the sick and elderly. Daily weather reports usually provide an index for air quality. If the air quality index is high (over 100), you should stay indoors as much as possible.
- Whether it's bees, snakes, or jellyfish, summer is filled with things that bite, sting, and pinch. Always be aware of your surroundings and keep a first-aid kit on hand for emergencies.

This list might seem overwhelming, but most of this advice comes down to caution and common sense. Have fun this summer. Get in plenty of beneficial exercise, and enjoy spending time with your family and friends. Just be sure to know your limits and look out for those you love.

The Power of Water

Aquatic exercise offers many options for all fitness levels.

hether it's the hypnotic shimmer of light dancing off a lazy pond or the rhythmic pulse of a crashing ocean wave, water enchants like no other element. So it should come as no surprise, really, that people seek to surround and immerse themselves—figuratively and literally—in these three readily abundant atoms. And for those looking to incorporate fitness into their lives, there's no place quite like the water, and there are few exercises more beneficial than the ones performed in a bathing suit.

"Being in the water makes people feel good," explains John Spannuth, president and CEO of the U.S. Water Fitness Association. "I can remember a lady in her 80s [with numerous health problems] who was a water walker. She said, 'I feel so bad, but just being in the water makes me feel so much better."

In addition, the physical activity that comes with aquatic exercise can actually help improve memory. Researchers at the Rush Alzheimer's Disease Center in Chicago found that for healthy seniors with intact memory (average age was 80), the risk of becoming disabled fell 7 percent for every hour spent each week being physically active. Exercise is also important for persons who already have Alzheimer's, and experts recommend that it be continued as long as possible. The advantages of exercise for Alzheimer's patients include improved mood, maintenance of muscle strength, and possible prevention of other diseases.

Non-impact Exercise

Experts contend that water exercise, also known as aquatics, provides one of the best non-impact workouts known to

man, ideal for everyone from athletes to senior citizens. Because the buoyancy of water "lowers" a person's weight by almost 90 percent, stress on joints and bones is virtually eliminated, and the added support provided by the water allows a fuller range of motion. At the same time, water exerts much more resistance than air, so the effort required during exercise in water is greater. As such, aquatics can be used to strengthen muscles, enhance cardiovascular fitness and endurance, and improve flexibility. In addition, exercise has been shown to improve cognitive functioning.

"For most people, swimming or aquatic exercise is a huge benefit because it is non-weight-bearing," says Margot Putukian, MD, director of primary care sports medicine and team physician at Penn State University. "So, it allows them to get a good cardiovascular workout without putting a lot of pressure on their knees, ankles, and back."

The non-impact nature of water exercise makes it ideal for people who are overweight, those who suffer from musculoskeletal problems such as arthritis, and patients trying to recover from stress fractures and other injuries. In fact, Dr. Putukian advocates aquatic work for everyone except those who suffer from osteoporosis or osteopenia, where weight-bearing exercises are often prescribed to help stimulate the body to prevent further bone loss and increase bone density.

Naturally, swimming is the activity that comes to mind when one thinks of water-based activity. Often cited as the "perfect exercise," swimming strengthens virtually all of the major muscle groups as well as the respiratory and cardiovascular system. Plus, it's an ideal way to shed weight and reduce body fat. For example, it's estimated that a 150-pound person who swims at a 50-yard-per-minute pace can burn 240 calories in 30 minutes.

Water Aerobics

Water aerobics—quite simply, performing a series of rhythmic body movements and dance steps in water are designed primarily to improve cardiovascular health. The exercises, which can be performed in waist- to chest-deep water or in deep water with flotation devices, are ideal for stroke victims and people with conditions such as arthritis, neck and back problems, and obesity. What's more, water aerobics require more energy than land-based aerobics, accounting for a burn rate of 450 to 700 calories per hour of aerobic activity. To vary and toughen the routines, water aerobics instructors often use aqua blocks (small barbells made for the water), gyrojoggers for the hands or feet to increase resistance, kickboards, and aqua steps.

For those who prefer a more "traditional" form of exercise, experts recommend water walking or running. They offer many of the same benefits as walking or running on land, but the resistance of water makes each activity more physically taxing. Intensity can be adjusted by choosing different water levels and changing directions intermittently; however, most people walk at a level between the navel and the neck, while most water runners use a flotation device and jog in water where their feet can't touch the pool bottom.

Building Endurance

As with any exercise, the effectiveness of aquatics depends upon frequency, intensity, and duration. "You can't waddle back and forth in the water and expect miracles," Spannuth notes. For true aerobic benefits, Dr. Putukian suggests training at least three times per week, beginning with 15- to 20-minute workouts then gradually increasing duration.

"People may have difficulty with swimming or they may go up and down once or twice and be done—but that's okay," Dr. Putukian notes. "You can do three or four laps the first day, then rest and try another one, and so on until you eventually get to the point where you can do 20 or 25 laps without stopping." Because aquatics are "a little more forgiving," she also doesn't dissuade more frequent workouts, including up to seven days a week.

So, you may ask, is swimming the perfect exercise? Perhaps—for some people. One thing's for sure, however: People from all walks of life are discovering the physical, psychological, and social benefits of exercising in the water.

Exercising Caution in the Water

Water exercise may be right for you but not for your loved one with Alzheimer's disease. While maintaining a reasonable level of exercise is important to the overall health of Alzheimer's patients, the type of exercise any patient engages in should be individualized to his or her abilities. You should talk with your doctor about whether exercise is right for both you and your loved one. Even if your loved one is a lifelong swimmer, you should not allow them in the water without supervision, and it might be recommended that they remain in shallow sections of the pool.

However, if your loved one is particularly fond of the water, you can create an aquatic exercise routine that the two of you can enjoy together. Something as simple as walking laps in the pool can be a soothing and physically rewarding activity for both of you.



Living with Alzheimer's Disease

Products That Make Life Easier, Simpler, and Safer

The Alzheimer's Store is dedicated to providing unique products and information for those caring for someone with Alzheimer's disease. Every product in the store has been carefully selected to make living with Alzheimer's disease as easy as possible. The store also provides a rating system for products that tells potential buyers whether a particular product is for the early, middle, or late stages of the disease. For example:



A telephone that allows the user to push the picture of the person they want to call. For those who may be a little forgetful or who have difficulty seeing the numbers, this phone is a blessing.

With over 200 products that address various activities of daily living and caregiver challenges, the Alzheimer's Store is dedicated to finding and providing products for people with Alzheimer's disease and those caring for them.

For more information and many more helpful products, go to www.alzstore.com or call (800) 752-3238.

The Alzheimer's State of the Union

Learn how the federal government and your home state are addressing Alzheimer's disease.

he statistics are clear: Alzheimer's is a problem that affects millions of American lives, and will affect millions more until better treatments or a cure are found. With all the talk surrounding the subject, what is being done about attaining this goal?

Your role in helping preserve memory for untold millions may be as simple as contacting the elected representatives for your voting district. Keep reading to find out more about what's being done to address Alzheimer's by your state and federal government officials—and what you can do to help ensure that memory loss in America becomes just a memory.

State Initiatives

Legislation can vary dramatically from state to state. According to the Family Caregiver Alliance National Center on Caregiving, the following states are the most recent to move forward on Alzheimer's-related legislation:

- Arizona: A bill was passed to help educate respite and family caregivers who do not qualify for similar public programs.
- Illinois: This state's legislature amended current legislation to allow family members to be the designated paid caregivers for other family members, with some strings attached, including mandatory enrollment in Medicaid.
- Tennessee: An Alzheimer's task force consisting of 14 members, including a person with the disease and a caregiver, was established. They are required to submit a state Alzheimer's plan by February 15, 2009.

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 Texas: This government instituted a statewide Silver Alert to report missing senior citizens.

To learn more about your state's efforts in the fight against Alzheimer's disease, contact your district's representatives.

Federal Initiatives

The news on the federal level is mixed. The U.S. House and Senate have both introduced bills to help fund Alzheimer's initiatives and to provide relief for caregivers. The Bicameral Bipartisan Task Force on Alzheimer's Disease chairmen Edward Markey (D-MA) and Chris Smith (R-NJ) introduced the Ronald Reagan Alzheimer's Breakthrough Acts of 2004 and 2005 to the House of Representatives. Hillary Clinton (D-NY) and Susan Collins (R-ME) are the chairs from the Senate on the task force. Other leadership includes Senators Richard Burr (R-NC) and Barbara Mikulski (D-MD). Both bills died in committee, but the Alzheimer's Breakthrough Act of 2007 was introduced in March of 2007. It is currently still waiting to be heard by a House Committee. You can get task force updates by visiting chairman Ed Markey's House webpage at http://markey.house.gov.

In the Senate, S.B. 898 Alzheimer's Breakthrough Act of 2007, is on the calendar to be discussed by the Senate as a whole. This act was introduced in August 2007 by Barbara Mikulski (D-MD). It would amend the Public Health Service Act to fund breakthroughs in Alzheimer's disease research while providing more



help to caregivers and increasing public education about prevention. The majority leader determines in what order bills are debated, and there is a chance discussion of this bill will be delayed.

If you would like to urge the Senate to discuss S.B. 898, contact the office of Senate Majority Leader, Harry Reid (D-NV). His Senate webpage is http://reid.senate.gov.

Where funding is concerned, Alzheimer's research is being slashed. President Bush's 2009 budget proposal cuts include \$11.4 million for State Matching research grants, \$1 million for the 24/7 Alzheimer's Hotline, and \$940,000 for the MedicAlert* + Safe Return* programs. The CDC's (Centers for Disease Control and Prevention) Alzheimer's Brain Health Initiative will get \$1.57 million in funding, but was cut by \$300,000 from last year.

Contact your congressional representative and your state's two U.S. Senators today and inquire about their stances on Alzheimer's funding and legislation.

What's Your Role?

Every citizen has a right to petition his or her government. If you believe Alzheimer's legislation is an important issue, you can write letters or e-mails, make phone calls, join an interest group, or just vote for Alzheimer's-friendly politicians. If you are an Alzheimer's caregiver, family member, or early-stage sufferer, you have a unique perspective to offer your representatives on Capitol Hill and in your state legislature.

Members of the Bicameral Bipartisan Task Force on Alzheimer's Disease

Check this list to see if your representative is on the Bicameral Bipartisan Task Force on Alzheimer's Disease.

Rep. Spencer Bachus

Arizona

Rep. Raúl Grijalva Rep. Ed Pastor Rep. Rick Renzi

Arkansas

Sen. Blanche Lincoln Rep. Marion Berry Rep. John Boozman Rep. Mike Ross Rep. Vic Snyder

California

Sen. Barbara Boxer Rep. Xavier Becerra Rep. Howard Berman Rep. Brian Bilbray Rep. Lois Capps Rep. Susan Davis Rep. Anna Eshoo Rep. Sam Farr Rep. Elton Gallegly Rep. Wally Herger Rep. Barbara Lee Rep. Gary Miller Rep. George Miller Rep. Grace Napolitano Rep. Lucille Roybal-Allard

Rep. Linda Sanchez Rep. Loretta Sanchez Rep. Adam Schiff Rep. Hilda Solis Rep. Pete Stark Rep. Mike Thompson Rep. Maxine Waters

Rep. Henry Waxman Rep. Lynn Woolsey

Colorado

Rep. Tom Tancredo

Connecticut

Rep. Rosa DeLauro Rep. John Larson Rep. Chris Shays

District of Columbia

Del. Eleanor Holmes Norton

Florida

Rep. Gus Bilirakis Rep. Allen Boyd Rep. Ander Crenshaw Rep. Alcee Hastings Rep. Kendrick Meek Rep. Jeff Miller Rep. Adam Putnam Rep. Ileana Ros-Lehtinen Rep. Robert Wexler

Georgia

Rep. Sanford Bishop Rep. John Lewis

Guam

Del. Madeleine Bordallo

Hawaii

Rep. Neil Abercrombie

Illinois

Sen. Richard Durbin Rep. Danny Davis Rep. Luis Gutierrez Rep. Ray LaHood Rep. Jan Schakowsky Rep. Jerry Weller

Iowa

Rep. David Loebsack

Kansas

Rep. Dennis Moore Rep. Jerry Moran

Kentucky

Rep. Ben Chandler

Louisiana

Rep. William Jefferson

Maine

Sen. Olympia Snowe Rep. Thomas Allen Rep. Michael H. Michaud

Maryland

Sen. Barbara A. Mikulski Rep. Elijah Cummings Rep. Wayne Gilchrest Rep. Chris Van Hollen Rep. Albert Wynn

Massachusetts

Rep. Michael Capuano Rep. William Delahunt Rep. Barney Frank Rep. Stephen Lynch Rep. Ed Markey

(Co-Chair) Rep. Jim McGovern

Rep. Richard Neal

Rep. John Olver Rep. John Tierney

Michigan

Sen. Carl Levin Sen. Debbie Stabenow Rep. David Camp Rep. John Conyers Rep. Vernon Ehlers

Rep. Peter Hoekstra

Rep. Dale Kildee Rep. Sander Levin

Rep. Thaddeus McCotter

Rep. Mike J. Rogers

Rep. Bart Stupak

Rep. Fred Upton

Minnesota

Rep. Collin Peterson Rep. Jim Ramstad

Mississippi

Rep. Chip Pickering

Missouri

Rep. Jo Ann Emerson

Nebraska

Rep. Lee Terry

Nevada

Rep. Shelley Berkley

New Jersey

Rep. Rob Andrews Rep. Rush Holt Rep. Frank LoBiondo Rep. Bill Pascrell Rep. Donald Payne Rep. Jim Saxton Rep. Christopher Smith (Co-Chair)

New Mexico

Rep. Tom Udall

New York

Sen. Hillary Rodham Clinton (Co-Chair) Sen. Charles Schumer Rep. Gary Ackerman

Rep. Tim Bishop

Rep. Joseph Crowley

Rep. Eliot Engel

Rep. Maurice Hinchey

Rep. Steve Israel

Rep. Peter King

Rep. Nita Lowey

Rep. Carolyn Maloney

Rep. Carolyn McCarthy

Rep. Michael McNulty

Rep. Charles Rangel

Rep. Thomas Reynolds Rep. Louise Slaughter

Rep. Jim Walsh

Rep. Anthony Weiner

North Carolina

Rep. Bob Etheridge Rep. David Price

North Dakota

Sen. Byron Dorgan

Sen. Sherrod Brown

Ohio

Rep. David Hobson Rep. Stephanie Tubbs Iones Rep. Marcy Kaptur Rep. Dennis Kucinich Rep. Steven LaTourette Rep. Patrick Tiberi

Oklahoma

Rep. Tom Cole Rep. Frank Lucas Rep. John Sullivan

Oregon

Rep. Peter DeFazio

Pennsylvania

Rep. Jason Altimre Rep. Robert A. Brady Rep. Christopher P. Carney Rep. Mike Doyle Rep. Tim Holden

Rep. Paul Kanjorski Rep. John Murtha

Rep. Joseph Pitts

Rhode Island

Rep. Patrick Kennedy Rep. James Langevin

South Carolina

Rep. John Spratt

Tennessee

Rep. Lincoln Davis Rep. John Duncan, Jr Rep. Bart Gordon Rep. Zach Wamp

Texas

Rep. Lloyd Doggett Rep. Charles Gonzalez Rep. Gene Green Rep. Silvestre Reyes Rep. Pete Sessions

U.S. Virgin Islands

Del. Donna Christensen

Utah

Sen. Orrin Hatch

Vermont

Sen. Bernie Sanders

Virginia

Rep. Tom Davis Rep. Randy Forbes Rep. Bob Goodlatte Rep. James Moran Rep. Frank Wolf

Washington

Sen. Maria Cantwell Rep. Jay Inslee Rep. Rick Larsen Rep. Jim McDermott

West Virginia

Rep. Shelly Moore Capito Rep. Alan Mollohan Rep. Nick Rahall

Wisconsin

Sen. Russ Feingold Rep. Tammy Baldwin Rep. Ron Kind Rep. Thomas Petri

Note: List last verified in May 2008.

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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 37)

MATCH THESE

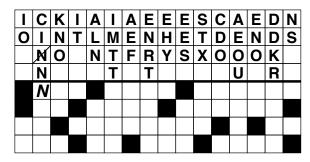
Can you match these famous siblings to the occupation they share?

- 1. ____ Lionel and Ethel Barrymore
- 2. ____ Venus and Serena Williams
- 3. Eli and Peyton Manning
- 4. ____ Nelson and Winthrop Rockefeller
- 5. ____ Gaylord and Jim Perry
- 6. ____ Lord Richard and Sir William Howe
- 7. ____ Charlotte and Emily Brontë
- 8. ____ George and Ira Gershwin
- 9. Christina and Dante Rossetti
- 10. ____ Richard and John Plantagenet
- 11. ____ Al and Bobby Unser
- 12. ___ Charles and William Mayo

- a. Quarterback
- b. Race car driver
- c. Baseball pitcher
- d. Novelist
- e. Actor
- f. Poet
- g. Tennis player
- h. King of England
- i. Surgeon
- j. U.S. state governor
- k. Songwriter
- I. Military commander

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 read from left to right spell out a short quotation from essayist Charles Lamb. The black squares are the spaces between words. One letter has been dropped in place to start you off.



LEAPFROG

Here's a list of items you might find in a desk drawer — two terms for each number. Their letters are in the correct order, but they overlap. All you have to do to find the terms is separate the letters.

Example: COFRLREUCTIDON — CORRECTION FLUID

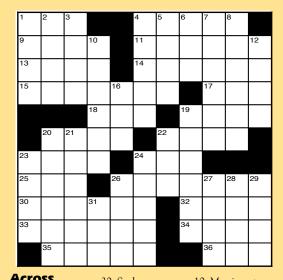
1.	GSLTIUCEK	
2.	CPALPIEPR	
3.	ICNADREXD	
4.	BRAUBNBDER	
5.	OLEPETNTERER	
6.	RSEMTAOPVELER	
7.	SPOTSATMAGEP	



•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 clues. The puzzle on the right is a medium-level puzzle and the number of words in the answers have been eliminated. The second puzzle is also a thematic puzzle: the title "Little Sir Echo" is a hint. Have fun testing your knowledge while doing something that's good for you!



ACLOSS	30. Seek, as	10. Merriment
1. NY airport	an opinion	12 belt
4. Dropping-	32 Canal	16. Compass dir.
dishes sound	33. Mexican lady	19. Or's partner
9. Spoken	34. Scream	20. More boring
11. Knights'	and shout	21. Surfing the
weapons	35. Drive away	Internet
13. Fence swinger	36. Hot drink	22. Final mo.
14. Shun		23. Slapstick
15. Connie	Down	missiles
or Wallace	1. Runs for	24. Highly
17. Mauna	exercise	important
18. Printer's need	2. Univ. club	26. Bog
19. Check galleys	3. Actress	27. "I smell!"
20. Love excessively	Beckinsale	(2 wds.)
22. The "D" in CD	4. Metallic sound	28. One,
23. Scrawny	5. Tattered clothing	g in Germany
24. Kitty's doc	6. Columnist	29. " Smile Be
25. In need of	Landers	Your Umbrella

7. Berates

(2 wds.)

31. Joe Friday, e.g.

chicken soup

26. Author Crichton 8. Brave

Little Sir Echo

Across

- 1. Still
- 5. Auditor's inits.
- 8. Strip of wood
- 12. Sailing on the briny
- 13. Took off
- 14. Fork part
- 15. NY prison, formerly
- 17. Tolkien tree creatures
- 18. Lure artfully
- 19. Customary procedures
- 21. Rotter
- 22. all come out in the wash
- 23. Sticky pie variety 1. Instance
- 26. ___ rule (generally) 27. What the
- bouncer checks 30. Branch of
- biology: abbr. 31. German
- exclamation 32. Metal fastener
- 33. Debtor's letters
- 34. Newt
- 35. Like Tina Turner
- 36. -esteem

- 38. Pantry item
- 39. Tropical root veggie
- 41. Language of the Koran
- 45. Hubbubs
- 46. One of the Society Islands
- 48. Ammo for a crafter's gun
- 49. Impertinent talk
- 50. Large, flat bean
- 51. Convention unit: abbr.
- 52. Urban RRs
- 53. Zip

4. "

Down

- 2. "Z" ___ zebra
- 3. Fasting time
- Mystery Tour"
- 5. Blubbered 6. Barrie boy
- 7. Distress
- 8. Pickpocket
- 9. Chinese gift to
- the National Zoo 10. Start a
- poker game
- 11. Roman Polanski film

- 16. Turn hard copy into
- computer data 20. Railroad
- depot: abbr.
- 23. Canad. prov. 24. Author Umberto
- 25. Moroccan
- grain dish
- 26. Congressional passage
- 28. Created a well
- 29. Farm pen
- 31. Likable
- 32. Reasonable to argue
- 34. Shade provider
- 35. Zhivago's beloved
- 37. Lets up 38. Complains ad nauseam
- 39. Sprees
- 40. Goofing off 42. Make hard-
- cooked eggs
- 43. TV "friend"
- played by Marie Wilson
- 44. James of "Honeymoon
- in Vegas"
- 47. Crankcase stuff

1	2	3	4		5	6	7		8	9	10	11
12					13				14			
15				16					17			
18							19	20				
			21				22					
23	24	25				26				27	28	29
30					31				32			
33				34				35				
		36	37				38					
39	40						41			42	43	44
45					46	47						
48					49				50			
51					52				53			

(Answers on page 37)

BRAIN-BOOSTING PUZZLES HIDDEN-MESSAGE WORD-FIND

All the words in the list, which are about superstitions, can be found in the letter grid reading across, up and down, and diagonally. When you have found them all, read the leftover letters to discover an apt quote by Oprah Winfrey.

You are looking for a 44-letter phrase.

BLACK CAT	LADDER	Р	L	U	С	T	Ε	A	L	Ε	A	٧	Ε	S	М
BLARNEY STONE	PENNY	K	Ε	G	N	I	Z	Ε	Ε	N	S	N	P	I	R
BLUEBIRD	RABBIT'S FOOT	S	S	N	A	С	M	A	Т	Ε	0	I	L	Ε	A
		D	J	I	N	X	U	T	Ε	T	L	Α	٧	T	Н
BROKEN MIRROR	SEVEN	Т	0	Ε	L	Υ	R	R	s	L	D	ı	D	0	С
CHARM	SILVER DOLLAR	Α	0	0	F	٧	Н	Y	s	D	L	Р	R	0	A
CRICKET	SNEEZING	С	R	Ε	W	T	Ε	A	Ε	Ε	Ρ	S	I	F	L
CURSE	SPILL SALT	K	R	A	N	N	L	R	Y	R	Ε	A	В	S	L
EVIL EYE	TEA LEAVES	С	T	I	R	T	0	Ε	D	S	I	0	Ε	Т	Ε
		Α	N	A	С	S	M	K	Н	0	Ε	Ε	U	I	R
HORSESHOE	THIRTEEN	L	L	Т	ı	K	Ε	0	С	N	L	G	L	В	В
IN THREES	UMBRELLA	В	0	Р	Р	0	Ε	٧	R	0	Т	L	В	В	M
JINX		U	N	T	Н	I	R	Т	Ε	Ε	N	I	A	A	U
KNOCK ON WOOD		Т	Y	R	0	R	R	I	M	N	Ε	K	0	R	В

SUDOKU

To complete each 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.

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



Match These

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

Droplines

Not many sounds in life exceed in interest a knock at the door.

Leapfrog

1. Glue stick; 2. Paper clip; 3. Index card; 4. Rubber band; 5. Letter opener; 6. Staple remover; 7. Postage stamp.

Hidden Message

Luck is a matter of preparation meeting opportunity.

Crossword 1 J F K C C R A S H O R A L L A N C E S G A T E I G N O R E S T E V E N S L O A I N K E D I T D O T E D I S C P U N Y V E T I L L M I C H A E L E L I C I T E R I E S E N O R A R A N T R E P E L T E A

Word-Find PLUCTEALEAVES M KEGNIZEENSNFIR SCHACMATEOLOGA OLONGUTETAVES ACMATEOLOGA CREWEASEPSIFFL KRAANGLOGASIOETE ANACSMAHOEEUIR LTIREONLGLBBB OPPOERTIBBB UNTHERESONBEORB

Crossword 2 C A L M C P A S L A T A S E A R A N T I N E S I N G S I N G E N T S E N T I C E U S A G E S C A D I T L L P E C A N A A S A I D S E C O L A C H T N U T I O U E F T L E G S S E L F C A N A A B A B I C A D O S B O R A B O R A G L U E L I P L I M A S E S S E L S E L A N

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

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UVISA UMASTERCARD #			
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ADDRESS			
CITY			8FCAR3
PLEASE ALLOW 8 WEEKS FOR SUBSCRIPTION TO BEGIN. "CANADIAN FUNDS ACCEPTED; HOW CHECK DRAWN ON A U.S. BANK OR A M			40-24 ISSUES. OUTSIDE U.S. AND CANADA, PAY WITH

(continued from page 9)

PYM: Do natural remedies (e.g., Omega-3 fatty acids, ginkgo biloba, curry) hold promise for the prevention of Alzheimer's disease?

Dr. Greengard: The evidence here is conflicting. For example, there is evidence that DHA or other omega-3 fatty acids may help reduce the risk of Alzheimer's. Some evidence suggests that curcumin (a derivative of the Indian curry spice turmeric) may also reduce Alzheimer's risk. Most of this evidence is derived from retrospective studies and are based on correlations. These are not the most reliable kinds of studies. Instead, well-controlled tests on large groups of people need to be carried out first to assess the value of these substances. In fact, a large well-controlled clinical trial that tested the ability of ginkgo biloba to reduce the risk of Alzheimer's has recently been completed. The results of that trial could be announced in the next several weeks. ■

For more information from Dr. Greengard, please visit: www.ALZinfo.org.

For up-to-date information on clinical trials currently underway, please visit: www.clinicaltrials.gov.

Dr. Paul Greengard

Director of the Fisher Center for Alzheimer's Disease Research at The Rockefeller University

Dr. Paul Greengard was awarded the year 2000 Nobel Prize in Physiology or Medicine for his pioneering work in delineating how neurons communicate with one another in the brain. During a half-century of research, he has been



Photo: Josh Wolff

lauded for his singular contribution to our understanding of the complex signaling processes that occur within each of the 100 billion or more nerve cells in the human brain. He is the Vincent Astor Professor at The Rockefeller University and Director of the Fisher Center laboratory. Dr. Greengard is also a member of the National Academy of Sciences and has received more than 50 awards and honors throughout his career. He is the author of nearly 1,000 scientific publications.

Medicinal Laughter







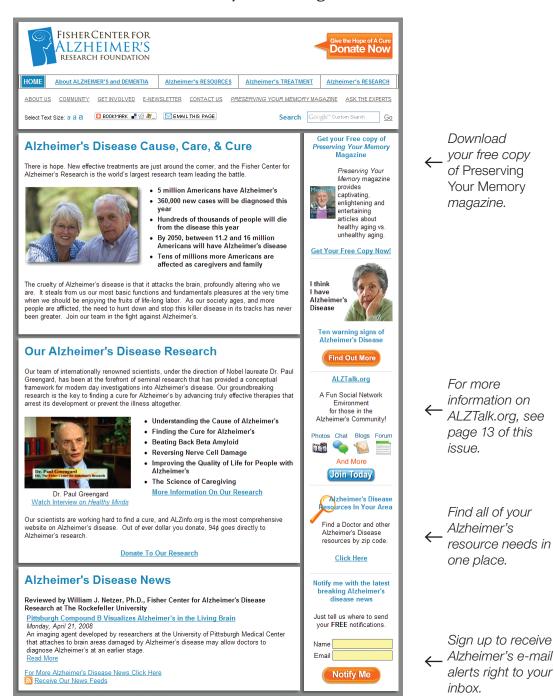
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