Is this too good to be true? Can chocolate—that delicious and decadent treat—actually be good for you?

Chocolate is loved and appreciated by many, but it does not normally come to mind when one hears the phrase “health food.” However, recent research demonstrates that chocolate cannot be so easily relegated to the junk food realm.

What is all the hype surrounding the connection between health and chocolate? Chocolate actually contains chemicals that can impart health benefits. These chemicals are known as flavonoids, a specific class of antioxidants which have been demonstrated to have positive effects on the heart and blood. The flavonoids present in chocolate might have a role in the prevention of cardiovascular diseases and other diseases that affect blood vessels.

**Drinking Cocoa**

One study, published in January 2006, shows that flavonols found naturally in chocolate (specifically, these chemicals are called catechin and epicatechin) have an effect on blood vessel relaxation. The study was sponsored by the Mars candy company, and gave volunteers a specially prepared cocoa drink that contained either high or low concentrations of cocoa flavonols. Only the group who consumed the drink rich in flavonols showed blood vessel relaxation. When compared against a group who drank a placebo drink or a cocoa drink containing isolated epicatechin (derived from cocoa), the group that drank the special flavonol-containing cocoa again showed similar blood vessel relaxation. A link has been suggested between nitric oxide and cocoa flavonols—nitric oxide is the chemical that dilates (opens) blood vessels and increases blood flow when it signals the surrounding muscle to relax.

A 2005 study of smokers provides further evidence of a link between nitric oxide and cocoa flavanols, and again suggests a connection between cocoa consumption and healthy blood vessels. The study was designed to look at the effect of flavanol-rich food (in this case, a cocoa drink) on the concentration of nitric oxide in the blood of smokers. Other studies had suggested that smoking-related vascular disease is caused by an impairment in the nitric oxide synthesis process, and suggested that diets rich in flavanols might increase nitric oxide concentration in the body.

continued on p. 2
There are issues unique to individuals with memory changes and to their family members. We are trying to learn how to better address these issues by developing new services and providing support groups that meet the needs of individuals with memory problems and their families. We are involved in ongoing development of support groups to achieve these goals. Currently the following groups are available at our center:

**Caregivers Support Groups**
These small groups are designed to provide answers to individual questions and concerns of caregivers as well as educational information. It also provides a network to offer support and guidance.

**Mild Cognitive Impairment Group**
For individuals with a diagnosis of mild cognitive impairment (symptoms not meeting criteria for dementia) and their family members or friends. The group focuses on 1) education, 2) communication, 3) management, and 4) psychosocial concerns.

**Early-Stage Alzheimer’s Patient and Caregiver Group**
This group is for early-stage Alzheimer’s patients and their caregivers. The group is designed to provide a forum for participants to discuss their concerns and ask questions about the illness. Sessions combine education, psychotherapeutic principles, and support to enhance understanding and coping mechanisms.

**Alzheimer’s Treatment Consultation Group**
This group meets every other Wednesday from 10:00am - 11:00am. This is designed for research participants and their caregivers. Dr. Shamala Kanchan answers questions about medical issues and medications. This is a drop-in group.

Some of our basic goals include helping participants to:

- Develop new connections with fellow participants.
- Lessen feelings of isolation and being alone.
- Gain a better understanding of Alzheimer’s Disease and Mild Cognitive Impairment.
- Keep abreast of new research and possible treatments.
- Keep current with legal, financial, long term planning issues and community resources.
- Learn about opportunities for participation in research and community activities.
- Acknowledge personal strengths and positive aspects.
- Share information about what works and what does not work.

All groups meet at the Palo Alto VA Health Care System 3801 Miranda Ave., Bldg. 4, conference room A101 (650) 858-3915 or 493-5000, x 65051 http://arcc.stanford.edu/family.html

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Blood. After the study’s participants ingested 176 to 185 mg of flavanols in a prepared cocoa drink, the concentration of nitric oxide in the blood increased. In addition, they experienced increased vasodilation, which promotes healthy blood flow and vascular function. The increase in this circulating nitric oxide may contribute to the beneficial vascular health effects seen after eating flavanol-rich food.

Other studies have also examined the effects of cocoa consumption in different populations. A study published in February 2006 measured cocoa consumption in 470 men with an average age of 72. After 15 years, the men who consumed the most cocoa had lower systolic and diastolic blood pressures than those who consumed the least cocoa. In addition, men who consumed the most cocoa also had a 50% lower risk of cardiovascular disease, even when results were adjusted to control for the intake of other nutrients like vitamins C and E, beta-carotene, and folic acid. Researchers again propose a link between cocoa consumption and lower risk of cardiovascular disease—this risk reduction could be due to the presence of flavonols, which promote healthy blood vessel function.

In a 2005 study of healthy soccer players, Dr. C.G. Fraga and his research group also found a link between chocolate consumption and reduction of blood pressure. For 14 days, players were given 105 grams of either a high- or low-flavanoid chocolate. After two weeks, blood pressure was reduced in the group who consumed the high-flavanoid chocolate. The link between chocolate’s antioxidants and blood vessel function is an important one, as high blood pressure is a risk factor for many chronic diseases, including cardiovascular disease.

**Chocolate and Insulin Metabolism**

Another study compared the effects of dark chocolate or white chocolate bars on the insulin response in healthy subjects. Subjects had a 7-day cocoa-free period, after which they received 100 grams of either dark chocolate bars or white chocolate bars for 15 days. Dark chocolate bars contain a substantial amount of antioxidants, while...
white chocolate is presumed to contain little to no antioxidants. After this 15-day phase, subjects again endured another 7-day cocoa-free period, and crossed over to the other condition (if they received dark chocolate for 15 days first, they now received white chocolate, and vice versa). Tests were conducted at the end of each period to determine insulin sensitivity. Insulin resistance was lower after dark chocolate ingestion.

Lower insulin resistance is a good thing—this means a person’s cells are responding appropriately to the insulin signal, and the body is able to absorb food sugars at a normal rate. If a person’s body becomes “resistant” to insulin, their cells do not respond in the same way, and food sugars remain in the bloodstream for long periods of time. Insulin resistance is seen in conjunction with conditions such as hypertension and obesity. More research is needed to confirm the protective effects of dark chocolate in these populations.

Dark Chocolate is Better

Are all types of chocolate alike when it comes to health benefits? Is milk chocolate as good as dark chocolate? And what about white chocolate? As it turns out, chocolate’s health benefits are present only in dark chocolate. In a 2003 study, Dr. Andrew J. Innes and his research group compared healthy volunteers’ consumption of white chocolate (no flavonoids), dark chocolate (highest levels of flavonoids), and milk chocolate (lower concentration of flavonoids). Upon analyzing the results of the study, only dark chocolate was significant in reducing platelet aggregation (platelets are involved in blood clotting.) Could the antioxidants in chocolate benefit people with Alzheimer’s disease? More research is needed to answer this question.

As in many foods, the amount of processing is related to the health benefits. The antioxidant levels present in chocolate are dependent on the steps involved in the manufacturing process. Chocolate’s health benefits are lessened as the chocolate undergoes more processing—and, you guessed it, milk chocolate and white chocolate are the result of substantial cocoa processing. During processing, cocoa is subjected to fermentation, drying, roasting, and alkalizing; although this makes chocolate taste delicious, significant amounts of health-enhancing flavonoids are destroyed in the process.

Scientists caution that while chocolate does contain healthy compounds, it is still a high-calorie, energy-dense food that contains saturated fat. To make the most of chocolate’s health benefits in your life, enjoy the sweet treat in moderation.

Antioxidants and You: What You Can Do

A wide range of foods and beverages are also rich in the same antioxidants (flavonoids) found in cocoa and dark chocolate. Other good sources of flavonoids include green and black tea, red wine, sweet cherries, apples, blackberries, raspberries, and purple grapes. Common foods with high levels of other antioxidants are blueberries, cranberries, artichokes, prunes, and pecans.

The Stanford/VA Aging Clinical Research Center is one site for a new national study that will assess how different types of antioxidants might treat or even help prevent Alzheimer’s disease. The brain undergoes oxidative damage in aging and in Alzheimer’s disease. This study will measure levels of chemicals in blood or cerebrospinal fluid to determine whether antioxidants may be likely to benefit people with Alzheimer’s disease.

If you would like more information about the Antioxidant Biomarker study, please call 800-943-4333 or 650-852-3287.

Article by Kelly Landy

Sources:
Spotlight: J. Wesson Ashford, M.D., Ph.D.
Senior Research Scientist, Stanford/VA Aging Clinical Research Center

We are pleased to mark the occasion of Dr. Wes Ashford’s third year with the Stanford/VA Aging Clinical Research Center. Dr. Ashford is a prominent researcher who is studying early signs of memory loss and Alzheimer’s disease. He is dedicated to developing quick, reliable ways to identify memory impairment and determine effective treatments.

At our Center, Dr. Ashford is involved in conducting several clinical studies of new methods to measure and slow the progression of Alzheimer’s disease. He helps guide our research on innovative brain scans and biochemical tests to detect the process by which Alzheimer’s disease affects the brain. He also is spearheading the creation of a program that will screen for early signs of memory problems.

Dr. Ashford has worked closely with scientists, health care providers, and families across the country in the fight to end Alzheimer’s disease. He has been on the faculty of several universities, including UCLA, UC Davis, and Southern Illinois University, where he directed university and VA clinics treating memory disorders and helped establish two Alzheimer’s Disease Centers. Before joining the Stanford/VA ACRC team in 2003, he served as an Associate Professor and vice-chair for research with the Department of Psychiatry at the University of Kentucky.

Dr. Ashford has been interested in the field of aging since 1968 and has treated Alzheimer patients as his special area of focus since 1978. His research interests include:

- **Aging and Alzheimer’s Disease:** In 2005, Dr. Ashford was first author of a national discussion that explored the issue of why people are more likely to get Alzheimer’s disease as they get older and why healthier people are more likely to get Alzheimer’s disease as they age.
- **Alzheimer’s Disease Screening and Diagnosis:** Dr. Ashford has published numerous papers on methodology for diagnosis of Alzheimer’s disease, and recently published three papers presenting the significance of genetic factors in recognition of Alzheimer’s disease. Dr. Ashford’s research now focuses on recognizing, diagnosing, and measuring precisely the earliest clinical manifestations of this disease. At Stanford, he is involved in coordinating the local effort for the Alzheimer’s Disease Neuroimaging Initiative (ADNI), which examines brain scans in order to detect early Alzheimer’s disease. He has led an international team to advocate for dementia screening as reported in a paper published in April 2006. Currently he is developing a brief, efficient, and fun computer game for measuring memory and detecting early dementia, which could lead to more effective treatments and ultimately prevention.

*continued on next page*
Spotlight on Dr. Ashford
continued from previous page

• Alzheimer’s Disease Treatment: Dr. Ashford published the first double-blind study of an anti-
cholinesterase drug to treat Alzheimer’s disease in 1981. This class of drug includes most of the
medications that are now used for treating Alzheimer’s disease, including such medications as
donepezil (Aricept™), galantamine (Razadyne™), and rivastigmine (Exelon™).

Current Research

Dr. Ashford is leading a study of the new drug, memantine (Namenda™), analyzing changes
evident in brain scans (Magnetic Resonance Spectroscopy) over the course of a year to see if this
drug actually slows the progress of Alzheimer’s disease. He is also coordinating the Stanford part of
a multi-site study of antioxidants and biomarkers in Alzheimer’s disease.

Dr. Ashford encourages all interested people to consider participating in the ADNI project, the
Memantine and Antioxidants studies, and the several other important research programs being con-
ducted at Stanford and the Palo Alto VA hospital. All of these studies are open for recruitment. If you
are interested in participating in one of Dr. Ashford’s research projects, please call (650) 852-3287.

Announcing New Drug Treatment Study

Researchers at the Stanford University School of Medicine are seeking volunteers for
a study related to Alzheimer’s disease. This study involves a drug that may slow brain
deterioration in people already diagnosed with the disease. The investigators are Dr. Wes
Ashford, senior research scientist at the Stanford/VA Aging Clinical Research Center, and
Dr. Jerome Yesavage, professor of psychiatry and behavioral sciences and director of the
Stanford/VA Aging Clinical Research Center.

Memantine and MRI

The drug memantine (Namenda™) has shown cognitive benefits in individuals with
moderate to severe Alzheimer’s disease. The researchers want to determine if memantine
has an effect on brain structure and chemistry in Alzheimer’s disease patients. This year-long
study will use magnetic resonance imaging to determine the drug’s effectiveness. Particip-
ants will get MRI brain scans at the begin-
ing of the study. Half the volunteers will then
get memantine, the rest placebos. At the end
of the year, they will repeat the brain scans
and compare them with the initial ones.

Memantine works by partially blocking
NMDA receptors, which are a type of receptor
for the chemical glutamate. The drug helps
ensure that the right amount of glutamate is
available to support the chemical environment
needed for the brain to process, store and
retrieve information, resulting in learning and
memory.

The study, which is sponsored by For-
est Laboratories Inc., needs volunteers be-
tween the ages of 50 and 90 who have been
diagnosed with probable Alzheimer’s disease
and who are able to swallow pills. Participants
must also have a caregiver/study partner who
can provide informed consent to participate
and who can attend all clinic visits to report
on the participant’s activities and behavior.

For more information, contact Aimee
Stepp at (650) 493-5000, ext. 65654.

The Alzheimer’s Association

Creating a world without Alzheimer’s and
enhancing quality of those who live with it.
For information about Alzheimer’s and related
disorders, referrals to helpful community
resources and expert consultations, call 800-
272-3900 24 hours a day/ 7 days a week.
For a list of Alzheimer’s support groups for
persons with memory loss and their families,
workshops and information about the latest
research and treatments visit their website at
www.alznorcal.org.
**RESEARCH OPPORTUNITIES**

*Memantine and Alzheimer’s Disease Study*

Is memantine effective in delaying, weakening, or preventing difficult behaviors in people with early stage Alzheimer’s Disease? Can it slow the progression of Alzheimer’s disease itself? Memantine or Namenda™, an anti-dementia drug, has been shown to be an effective treatment for the symptoms of moderate to severe Alzheimer’s disease. Study participants will be randomly assigned to receive memantine or placebo (inactive pill). Participants will be regularly monitored by physicians and qualified health care professionals who specialize in dementia during the 1-year research study. Participants should:

- be aged 50-95
- have been diagnosed with probable Alzheimer’s disease
- have someone who can be a study partner

*Alzheimer’s Disease Neuroimaging Initiative (ADNI)*

Do you want to help us learn how to stop the progression of Alzheimer’s disease in future generations? The goal of ADNI is to help predict and monitor the onset and progression of Alzheimer’s disease through regular brain imaging (MRI and PET scans). In addition, the study will collect and test blood, and, for some participants, cerebrospinal fluid to determine if biomarkers found in blood or spinal fluid can predict and/or monitor Alzheimer’s disease.

You may be eligible to participate if:

- you are 70 or older, in good general health with no memory problems, OR
- you are between 55-90, in good general health with some memory problems or concerns, OR
- you are between 55-90 and have a diagnosis of early Alzheimer’s disease

**You will need a study partner to accompany you to all visits.**

Participants will be assessed regularly by physicians and other qualified health care professionals.

*Light Study*

This study is testing light treatment to improve daytime alertness and nighttime sleep. It is designed to benefit both individuals with memory impairment and their caregivers who live together. A Stanford research team will set up light equipment for the treatment in your own home and assist in making your participation in the study as convenient as possible.

Participants should:

- be 55 years or older
- have memory impairment or dementia
- live at home with a caregiver/study partner
The VALID Study is a nationwide clinical research study designed to evaluate if Valproate is effective in delaying, weakening or preventing difficult behaviors in individuals with Alzheimer’s disease, or can slow the progression of Alzheimer’s disease overall. Participants will be assessed regularly by physicians and other qualified health care professionals. Participants should:

- be aged 50-90
- have been diagnosed with probable Alzheimer’s disease
- have someone who can be a study partner
- have not experienced agitation or psychosis since the onset of Alzheimer’s disease

This study will compare effects of different types of antioxidants in Alzheimer’s disease to help us select the best combinations of antioxidants in future, larger studies. The purpose of this study is to assess how well and safely different types of antioxidants can be used in patients with Alzheimer’s disease, and to measure whether these antioxidants affect levels of chemicals in blood or cerebrospinal fluid (CSF) in a direction suggesting that they are likely to benefit people with Alzheimer’s.

You may be eligible to participate if you:

- are aged 60-85
- have been diagnosed with probable Alzheimer’s disease
- have someone who can be a study partner
- are not on warfarin (Coumadin™) and do not have a bleeding disorder

This project is developing an approach to screen for memory problems in group sessions. Each screening session:

- begins with a brief talk on memory & aging
- involves simple memory games many enjoy
- reviews your results and concerns with staff

To sign up for the Free Memory Screening study
Contact: (800) 943-4333
Sleep, Memory, and Aging

Difficulties with sleep are among the most common complaints of older adults. This is not surprising, because as we get older we experience a variety of changes in our sleep patterns. These include a tendency to fall asleep earlier in the evening and to awake earlier in the morning, an increased number of nighttime awakenings, and an increased frequency of naps. Sleep difficulties are especially common among older adults with memory disorders.

Why do these changes in sleep and wake occur with age, and why are they especially problematic in people with memory disorders? Researchers have been trying to answer these questions for some time. One of their explanations implicates age-related changes in a small cluster of nerve cells (neurons) in the hypothalamus, a region of the brain that regulates hunger, thirst, and many other processes. This cluster of cells, called the suprachiasmatic nucleus (SCN), is believed to work as a clock in our brain. We go through a daily cycle of arousal (wake) and rest (sleep) that alternates according to this clock. A number of influences contribute to the clock’s setting, but one of the most important is light. Indeed, nerve fibers run from the back of the eye’s retina to the SCN, providing a clear neural pathway for the synchronization of the brain’s clock with light fluctuations that we observe between night and day. With age, we see a decrease in the number and size of cells that make up the SCN, and these changes are especially prominent in older adults with memory problems.

Sleep/wake problems in individuals with memory disorders bother both patients and those caring for them. Poor sleepers are affected by elevated levels of daytime sleepiness, lower activity levels during the day, and perhaps even additional cognitive problems as a result of sleepiness. Caregivers are affected when they are awakened at night and consequently are not well enough rested to function at an optimal level. This can contribute to caregiver stress. Indeed, sleep problems in older adults with severe memory disorders have been found to be associated with earlier placement in nursing facilities.

Stanford Light Study

This ongoing light study is unusual in that it is intended to directly benefit caregivers as well as their patients. The treatment is designed to improve both nighttime sleep and daytime wake without the use of medications. Our treatment builds on current knowledge about the function of the SCN using timed exposure to lamps and a program of sleep hygiene. Sleep hygiene guidelines encourage activities that promote sleep while limiting activities that interfere with sleep. Our treatment aims to reduce the length and number of wake periods at night and napping or dozing in the day. We hope to improve participants’ quality of life by making their nights more restful and restorative and days more vital and alert. This study is funded by the National Institute on Aging and provides an honorarium of $500 for each caregiver/patient pair on study completion and a sleep apnea screening at no cost.

Article by: Adam Spira

Common Sleep Problems

Individuals with memory problems often:
• Wake during the night
• Wander at night
• Sleep in light stages
• Nap during the day

Caregivers often have disturbed, short sleep due to caretaking responsibilities

Sleep Tip:
Keep a consistent routine for times into bed at night and out of bed in the morning. This strengthens daily rhythms of nighttime sleep and daytime wake.
Can this Drug Delay Alzheimer’s Progression?

A medication that has been successfully used for 40 years to treat epilepsy, migraines, and bipolar disorder may provide new hope for the more than four million Americans with Alzheimer’s disease. Stanford University is one of 30 institutions participating in a national study to determine if the medication valproate preserves functioning and delays the expected decline associated with Alzheimer’s disease.

The “Valproate in Dementia” or VALID study, will target patients with mild to moderate Alzheimer’s disease. All participants will be living at home and not yet shown signs of agitation. Patients may continue standard treatment with other medications.

Treating Agitation

Patients with Alzheimer’s disease may experience personality changes, including symptoms of agitation: easy to anger, low frustration level, and at its worst, physical aggression. Aggression is one of the primary symptoms that prompt families to place loved ones in a skilled nursing facility.

Scientists will study whether patients who take valproate experience less agitation, as well as whether valproate will slow down the deterioration of memory and daily functioning that occurs as the disease progresses. According to Dr. Jerome Yesavage, director of the Stanford/VA Aging Clinical Research Center, there’s good reason to conduct this study.

“When the Rochester group began to look at valproate in the laboratory, we were amazed to see that this simple drug blocked several key molecular events that we know are involved in the progression of Alzheimer’s disease,” Dr. Yesavage said. “We are eager to learn if these neuroprotective effects exhibited in the laboratory will also occur in Alzheimer’s patients.”

Previously, researchers have studied the effects of valproate in Alzheimer’s disease patients already showing signs of agitation, and have found that the medication did provide a beneficial effect for agitation in some patients.

“Until we have a cure for Alzheimer’s disease, we are continually searching for ways to help patients be self-sufficient as much as possible, so they can live their lives to the fullest for as long as possible,” Dr. Yesavage said.

Focusing on “Tangles”

The VALID study is the first of its kind to investigate an agent that may have the potential to block “tangles,” one of the hallmarks of Alzheimer’s disease. Tangles are unusual brain tissue structures, which are formed by abnormal processing of a protein called tau. These tangles lead to dysfunction that impairs the cell’s ability to communicate with neighboring cells. This contributes to the confusion, disorientation and forgetfulness associated with Alzheimer’s disease.

In addition to examining valproate’s possible effect on the illness, researchers will conduct two related studies. One concerns a blood test to investigate how Alzheimer’s disease affects critical cell products. The other will use repeated MRI scans to determine if valproate slows or alters the loss of brain cells.

VALID is funded by a grant from the National Institutes of Health. In addition, Abbott Laboratories is donating valproate and the placebo medication, as well as funds for the two related studies.

For information about participating in the VALID study, please call (650) 849-0339.

Make a difference: Help end Alzheimer’s Disease!

A contribution to the Aging Clinical Research Center is a gift to future generations in our fight to cure Alzheimer’s disease. Your generous support ensures that the Center continues to conduct top-quality clinical research to improve treatment options and to provide education and support for patients and families. With your help, our clinical researchers investigate the causes of neurodegeneration, develop better treatments for Alzheimer’s disease, and share these discoveries with the local community and scientists around the world.

Tax-deductible contributions can be made by check, payable to: Stanford University
Please indicate Stanford/VA Aging Clinical Research Center in the memo line.
Contributions should be mailed to:
Stanford/VA Aging Clinical Research Center
Attn: Jerome Yesavage, MD (151Y)
3801 Miranda Avenue
Palo Alto, CA 94304

Gifts may be made in honor of someone’s special occasion or in memory of someone who has passed away. Please provide the name of the person in tribute, as well as the name and address of anyone whom you wish to receive an acknowledgement of the gift.

For additional information about the Aging Clinical Research Center and opportunities to contribute, call (650) 852-3287. All donations are tax-deductible.

Please join us today in the fight to end Alzheimer’s disease. Your gift makes a difference!
Updates on Dementia Conference

8th Annual Updates on Dementia: Translating Research into Practice
May 15, 2006 7:30 am - 4:30 pm, Stanford University Medical Center, Fairchild Auditorium.

The 8th annual conference explores themes across the spectrum of memory. From brain health to mild cognitive impairment to end-of-life concerns, this year’s conference includes the following:

• Dale Bredeson, MD and CEO of The Buck Institute. In his keynote presentation, “A Beautiful Mind, Wasted: Alzheimer’s Disease: 2006 and Beyond”, Dr. Bredeson will prepare attendees to understand: similarities between human Alzheimer’s disease and transgenic mouse models of the same disease; the features of Alzheimer’s disease and how they might ultimately be prevented; and how the process of programmed cell death might relate to Alzheimer’s disease.

• Peggys Dilworth-Anderson, PhD, University of North Carolina Center for Aging and Diversity, discusses “Perceiving and Giving Meaning to Dementia In Diverse Populations”, and also moderates a panel on practices among ethnically diverse families. Panelists include: Ailee Moon PhD, Nancy Hikoyeda DPH, and Melen McBride PhD.

• David Salmon, PhD, University of California, San Diego on diagnosis of Mild Cognitive Impairment and early detection of Alzheimer’s.

• Susan Bookheimer, PhD, University of California Los Angeles discusses new techniques in brain imaging.

• VJ Periyakoil, MD, Associate Medical Director, VA Palo Alto Hospice presents on care for the advanced dementia patient at the end of life.

• Elizabeth Edgerly, PhD, Chief Program Officer of the Alzheimer’s Association N. California/N. Nevada, presents evidence of the effects of nutrition, mental stimulation and physical exercise on reducing the risk of AD.

Continuing education (7 hours) is available in the following categories: MD, RN, Psychologist, LCSW, LMFT, RCFE Administrator, Nursing Home Administrator. This conference meets the Gerontology and Geriatric Proficiency Standards for the Healing Professions.

Regular registration: $70; VA Employee $50; Senior/Student $25. For further information, contact: blanca.vazquez@alznorcal.org

Advanced Registration Recommended.
REGISTER ONLINE AT www.alznorcal.org

Stanford/VA Aging Clinical Research Center
3801 Miranda Ave. (151Y)
Palo Alto, CA 94304
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To add or remove your name from our mailing list, call (800) 943-4333 or visit our website.