

Nerve Growth Factor

The Next Generation In Alzheimer's Disease Therapeutic Research



Dear NGF Participants and Friends:

I am pleased to report that the NGF study will be wrapping up enrollment shortly. We cannot thank you enough for your volunteer participation in this important study. In important ways, this has been the most challenging study conducted by the ADCS. Its success is an indication of your outstanding efforts.

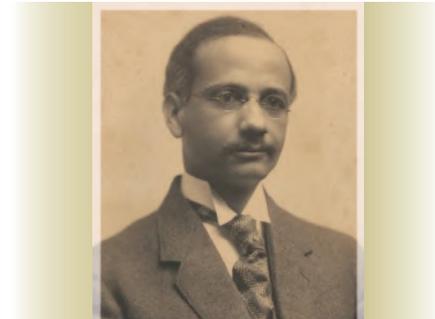
So far in 2012, AD research news has been a roller-coaster of potential breakthroughs and apparent dead ends. It has been discouraging that, despite the explosive growth in AD clinical research over the last 10 years, there haven't been any new AD drug therapies approved by the FDA for use to treat AD since 2003. But this year we have seen two enormously important advances: the approval of the first diagnostic test for amyloid accumulation in brain, and the first evidence in a large clinical trial that targeting amyloid can have beneficial effects on memory.

To state the obvious, AD is an inherently complex disease because it is a diffuse disorder of our most complex organ, the brain. Ten years ago, we identified AD almost exclusively through behavior (cognitive deterioration for no other apparent reason) in older people. However, the only way we could definitively diagnose AD was at autopsy – the same way physician Alois Alzheimer originally identified AD plaques and tangles over 100 years ago. Today, we are honing in on distinct AD biomarkers earlier and earlier in the disease process. In clinical research settings, we are able to confidently diagnose AD using a combination of biomarkers, scans and cognitive testing. Specifically, AD research data resulted in the general acceptance of the concept that AD pathology begins many years before any external symptoms appear. The presence of biomarkers like brain amyloid accumulation is the first indication of the gradual descent leading to mild cognitive impairment and dementia.

As NGF and other trials continue to shed light on the therapeutic potential of diverse strategies to intervene against progression of AD, we continue to move the clinical research forward and closer to the knowledge needed to finish the job. So, in my opinion - these are most interesting times in AD clinical research and that is a good thing.

Paul Aisen, MD, Director, Alzheimer's Disease Cooperative Study
Professor, Department of Neurosciences, UCSD

SOLOMON CARTER FULLER



Adapted from the U.S. Department of Health & Human Services, Office of Minority Health website

Solomon Carter Fuller was born in 1872, was a neurologist and the United State's first African-American psychiatrist. He played a key role in the development of psychiatry in the 1900s and is well known for his research on dementia. Dr. Fuller is credited with helping make the United States the leader in psychiatry that it is today.

Dr. Fuller's grandfather had been a slave in Virginia who purchased his freedom and moved his family to Liberia. At the age of seventeen, Fuller left Liberia to attend Livingstone College in North Carolina. He studied medicine at Long Island College Hospital and Boston University School of Medicine where he received his MD in 1897. Dr. Fuller then went to the University of (continued on page 4)

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The 3 Most Important Things an Alzheimer's Caregiver Must Do

By Eric Pfeiffer, M.D.

If you are the caregiver of someone with Alzheimer's disease, or someone with a similar illness, there are three things you absolutely must do in order to survive the caregiver experience. No doubt you will agree that caregiving can be an overwhelming experience. Experts on caregiving and seasoned caregivers recommend that you do at least these three things:

1 Join a caregiver support group as early as possible, and keep attending the support group throughout the caregiver experience.

Participating in a caregiver support group will provide you with many benefits, among them: You will find out that you are not alone. Others are going through similar struggles. Members of a caregiver group can provide you with emotional support, recognition, and much practical advice and how to cope with the changing circumstances of caring for someone with Alzheimer's disease.

You can find a caregiver groups meet in your community by contacting your local chapter of the Alzheimer's Association, or from the doctor or memory clinic that your loved one attends. Joining a caregiver group is not a luxury but a necessity, and general there is no charge for participating in a group.

2 Begin to share the burden of care with at least one other person, sooner rather than later.

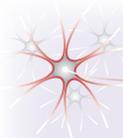
You may feel that you are the only person who can care for your loved one. But that is not entirely true. Relatives, friends, or someone you hire, can relieve you of your responsibility, for an hour, or several hours, or one day a week, so that you can attend to other parts of your life, so you can recover and return to caregiving with renewed zest and vitality. That way you will avoid exhaustion, depression, or even burn-out.



3 Take very good care of yourself.

In order to stay in your caregiver role, you must take very good care of yourself. You must attend to your own mental and physical health needs, and to continue to have a life of your own, by engaging in pleasurable activities, hobbies, and social contacts. If you go "down the tubes" your loved one I sure to follow. So do as they say on the airlines: "Put the mask on yourself first before you assist someone else."

Dr. Pfeiffer is the author of "The Art of Caregiving in Alzheimer's Disease." It is an A to Z Guide to the Caregiver Experience.



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Alzheimer's Disease Cooperative Study

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How Does the Mediterranean Diet Affect Cognition?

By Michael Rafii, MD, PhD

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Researchers at the Barcelona Hospital Clinic in Spain recently published results from a study that assessed the association between the consumption of antioxidant foods typical of the Mediterranean diet and better cognitive performance. The study was conducted with a subsample of 447 participants of the PREDIMED study, a long-term

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nutritional intervention study aimed to assess the effects of the Mediterranean diet in the primary prevention of cardiovascular diseases.

All volunteers were given a food habits questionnaire as well as a neuropsychological test to determine cognitive performance, particularly in the area of memory. Researchers also measured the excretion of polyphenols in urine as a marker of the intake of these antioxidant compounds present in many Mediterranean foods.

They found consumption of olive oil, as well as drinking coffee was associated with better scores on tests of verbal memory. The intake of nuts was associated with better working memory and moderate wine consumption was associated with better global cognitive function. A common feature of all these foods is that they are rich in polyphenols. They also found people who had higher levels of polyphenols in urine, an indicator of increased consumption of foods containing it, scored better on memory tests. The results suggest foods rich in polyphenols, characteristic of the Mediterranean diet could counteract the cognitive decline associated with age due to its high antioxidant power.

The most abundant polyphenols are found in plants, and comprising up to 50% of the dry weight of leaves. Plant polyphenols have a well-known antioxidant action. Daily consumption in the US ranges from 200 mg to 1 gram. Green tea polyphenols and Resveratrol have garnered the most attention in the lay and scientific communities for their potent anti-oxidant effects.

As readers of this blog will recall, it has been reported that oxidative stress and subsequent inflammation are the main cause of the pathologies associated with aging-related disorders. The longitudinal follow-up of these participants will provide



stronger evidence of the potential of the Mediterranean diet and its components in maintaining a good cognitive functioning in spite of aging, and reducing the incidence of Alzheimer's disease.

In 2006, Dr. Nikolaos Scarmeas of Columbia University in New York followed more than 2,000 dementia-free adults ages 65 and older, and found that persons who consumed a Mediterranean-type diet regularly were 38 percent less likely to develop Alzheimer's disease over the next four years. This study reinforces those findings, and further strengthens the idea that dietary intake of certain foods can influence cognitive function through the aging process.

Valls-Pedret C, Lamuela-Raventós RM, Medina-Remón A, et al. Polyphenol-Rich Foods in the Mediterranean Diet are Associated with Better Cognitive Function in Elderly Subjects at High Cardiovascular Risk. J Alzheimers Dis. 2012 Feb 20

Scarmeas N, Stern Y, Tang MX, Mayeux R, Luchsinger JA. Mediterranean diet and risk for Alzheimer's disease. Ann Neurol. 2006 Jun; 59 (6):912-21.



Solomon Carter Fuller... (continued from page 1)

Munich where he studied under Emil Kraepelin, the founder of modern psychiatric genetics, and Alois Alzheimer.

Upon graduation, Dr. Fuller became a pathologist at Westborough State Hospital in Massachusetts where he worked for twenty-two years.

Dr. Fuller also joined the medical faculty at Boston University School of Medicine and taught for thirty-four years, eventually becoming emeritus

professor of neurology.

Fuller became known for his work on Alzheimer's disease and on the biological causes of disorders such as schizophrenia and manic depressive psychosis (bi polar disorder). He published the first comprehensive clinical review of all Alzheimer's cases known at the time and was also the first person to translate much of Alois Alzheimer's work on Alzheimer's

disease from German to English.

Today, in recognition of Dr. Fuller's achievements, the mental health facility at Boston University is now officially known as the Dr. Solomon Carter Fuller Mental Health Center. And in 1972, the American Psychiatric Association and the Black Psychiatrists of America established the Solomon Carter Fuller Institute.

Coconut Oil and Alzheimer's Disease

By Michael Rafii, MD, PhD

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I always suggest that when considering whether or not to start a supplement for AD, it is best to consult with your doctor to ensure that there are no medication interactions, or any untoward effects of the supplement given one's own personal medical history. In addition, it is important to

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consider whether the data supporting the supplement is anecdotal or supported by results from a randomized, double-blind, placebo controlled trial. This is the best evidence, and the kind of evidence required by the FDA, for any substance to be prescribed for an indication.

With that said, I would like to discuss the recent attention on coconut oil in the treatment of AD. Coconut oil has medium chain triglycerides,

which are a good source of energy, in the form of ketone bodies. Ketones are byproducts of the breakdown of fats in the body; small amounts are normally produced. However, ketone levels rise when you fast (which can lead to a state called ketosis), in response to low glucose intake.

Another way to boost ketones in the body is to consume

fats called medium-chain triglycerides (MCTs), of which coconut oils are good sources. MCTs are converted in the liver into ketones, which can be used by the brain as fuel; they are a more immediate source of energy than other fats and are not as readily stored as body fat. Ketones can provide energy to cells without the need for insulin, the hormone the body relies on to get glucose from the blood into cells. The theory behind coconut oil's potential use in AD is that ketones might provide an alternative energy source for brain cells that have lost their ability to use glucose as a result of Alzheimer's disease pathology.

However, there are no studies yet to support this.

In addition, it should be kept in mind that coconut oil is quite high in calories — 115 calories per tablespoon. That can add up when doses are 4 to 8 tablespoons or more a day. Large amounts can also cause diarrhea and other gastrointestinal problems

Unfortunately, there just isn't enough data to support the idea of using coconut oil to treat AD. It is impossible for us to know whether coconut oil has any beneficial effect in Alzheimer's disease until a randomized, double blind clinical trial is conducted. In the meantime, anyone considering using it as a supplement should do so after a frank discussion with their doctor.

