



Institute for Aging & Alzheimer's Disease Research Newsletter

DECEMBER 2014

VOL 3, ISSUE 1



MEMORY ISSUES & AGING: NORMAL VS ABNORMAL?

James Hall, PhD, FAMP

Professor, Department of Psychiatry and Behavioral Health
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As with every part of our body as we age, there are normal changes in the brain and its functioning. These changes reflect mild neuronal loss in the subcortical areas, alterations in neurotransmitter levels, some dendritic loss and possible cerebral microvascular changes. These normal changes are shown in slowing of processing speed and recall rate, mild subjective deficits experienced as mild word-finding difficulty, recalling location of objects and forgetting appointments.

Our capacity to process new information diminishes somewhat as we age, as does our ability to remember details. Multitasking becomes more difficult as a result of aging. These changes do not significantly affect our ability to manage our activities of daily living; we are simply slower and less efficient in our mental processes. Age-related changes make doing things in the way we always have more difficult, but we are able to compensate and function appropriately.

It is not normal, however, to forget how to do things we have done many times before or have significant trouble learning new things. Not being able to keep track of what happens during the day is an indicator of changes greater than what we would expect based simply on aging. Additionally repeating phrases or stories in the same conversation and repeating the same question shortly after it has been answered are not part of normal aging. Changes that affect our ability to handle money or make choices suggest that something beyond normal aging is occurring.

Is Hearing Loss *Worsening* Dementia?

Amy M. Amlani, PhD

Associate Professor, Department of Speech & Hearing Sciences
UNT in Denton

Untreated hearing loss is the primary risk factor associated with dementia, reports Dr. Frank Lin of John's Hopkins University and his colleagues. For older individuals demonstrating an untreated mild hearing loss, there is a 30 percent increase for memory loss compared to a comparable aged individual having normal-hearing sensitivity. As a person ages and the longer that hearing loss goes untreated, the increased memory loss rate per year also increases. Research also shows that untreated loss and memory decline further contribute to social isolation, which is a leading cause of depression.

Treating hearing loss through amplification reduces the likelihood of memory loss and depression. Preliminary results from a study that is presently underway in the Hearing Aid Technologies Laboratory (HATLab), Department of Speech and Hearing Sciences, University of North Texas, Denton, indicate that hearing aids restore some memory loss and increase social activity in individuals having untreated hearing loss and diagnosed by a physician with moderate Alzheimer's disease.

Individuals interested in participating in this study are welcome to contact the HATLab by telephone at 940-369-7597 or by e-mail at unt.hatlab@gmail.com. Subjects who complete the study are provided one pair of free hearing aids (valued at \$4,000/pair) at the conclusion of their participation.



Crispy Salmon with Walnut Salsa Verde *a Brain Health Recipe*

Contributed by:

Dr. Anne VanBeber, PhD, RD, LD, CFCS • TCU Department of Nutritional Sciences

This dish combines many health-promoting flavors of the Mediterranean region with a delicious, sustainable fish to create an elegant but simple dinner entree. Cold-water fish, such as salmon, are rich in omega-3 fatty acids that are essential for optimal brain function. Tissues that are saturated with omega-3 fats are thought to protect cognitive function and healthy mood states that often suffer with advancing age. Research also indicates that low levels of omega-3 fatty acids may be correlated with depression and cognitive degeneration. Health experts recommend eating two to three servings of this anti-inflammatory fish at least two times per week. Walnuts, also an excellent source of omega-3 fats, contain vitamin E, which is a powerful anti-oxidant. Vitamin E is present in many herbs, such as oregano, thyme and parsley, which play a major role in flavor development in this recipe and also support brain health. The anti-oxidants found in lemons have been found to improve oxygen uptake within cells and increase brain function and to neutralize free radicals that are linked to aging. Many studies substantiate the beneficial effects of extra-virgin olive oil on combating memory deficits found in aging.

1/2 cup walnuts
3/4 cup fresh chopped flat-leaf parsley
3 tbsp. fresh chopped chives
1/2 tsp. chopped fresh thyme
1/2 tsp. chopped fresh oregano
3 tbsp. capers, chopped
2 garlic cloves, minced

1/2 cup extra-virgin olive oil, plus 3 tbsp.
3 tbsp. lemon juice
Salt and freshly ground black pepper
2 lbs. wild Alaskan salmon (or other fish of choice),
skinned and cut into 6-8 fillets
6-8 lemon wedges for garnish

Preheat oven to 375°F. Place walnuts on a baking sheet, and toast until fragrant and lightly golden, about 7 minutes. Let cool. Place walnuts on a cutting board and coarsely chop. In a small bowl, stir together the parsley, chives, thyme, oregano, capers, garlic, lemon juice and 1/2 cup extra-virgin olive oil. Add the chopped walnuts.

Season the salmon to taste with salt and pepper. In a large nonstick skillet, heat 3 tbsp. extra-virgin olive oil over medium-high heat. Add the salmon fillets in a single layer, and sauté until golden brown and crispy, about 3 minutes. Turn the salmon carefully, and continue to cook until golden brown and crisp on the second side, 2 to 3 minutes. To serve, place 1 salmon fillet on a warm plate, and top with the salsa verde. Garnish with lemon wedges, and serve immediately.

The Texas College of Osteopathic Medicine's Culinary Medicine course pairs medical students with Nutrition Science students from Texas Christian University in a lecture-plus-hands-on curriculum taught by faculty from both schools.

Yield: 6-8 servings

IAADR RESEARCH STUDIES

Because we are living longer, we need to better understand the diseases of aging and how to treat them. Your participation will aid in this effort.

Currently Enrolling IAADR Research Studies:

- **NOBLE** is a clinical study to evaluate an investigational drug for patients with mild to moderate Alzheimer's disease. The study drug may slow the progression of memory loss associated with Alzheimer's disease, but this is not proven yet. Women and men aged 55 - 85 years old with mild to moderate Alzheimer's disease may qualify to participate in this study.
- **Genetic and Biomarkers Study** of Alzheimer's disease will help us better understand the causes, presentation and treatment of Alzheimer's disease. Participants age 50 and older who have been diagnosed with Alzheimer's disease are needed.
- **Health & Aging Brain Among Latino Elders (HABLE)** explores aging among Mexican Americans in Texas. Studying healthy and

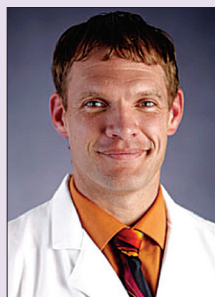
unhealthy aging in the Mexican American culture will allow us to create better interventions and treatment programs. Participation may include blood draw, medical record review and interview. Current enrollment is limited to men and women age 50 and older.

- **Health & Aging Brain Study** is a new research project at UNTHSC to better understand the biological and lifestyle factors that influence memory and thinking as we age. We are making special efforts to find community members with Alzheimer's disease, memory complaints or diabetes to participate in our research. Participation may include blood draw, medical record review and interview. Current enrollment is limited to people age 50 and older.
- **UNTHSC Brain Bank** is seeking both healthy and demented individuals who are willing to donate their brains after death in order to assist researchers in the battle against dementing illnesses such as Alzheimer's disease.

For more information about IAADR clinical research studies, please contact Kim Brown at 817-735-2694 or kim.brown@unthsc.edu.

MESSAGE FROM THE DIRECTOR

Obtaining a formal diagnosis of Alzheimer's disease



Unfortunately, it is not a simple thing to get an accurate and early diagnosis of Alzheimer's disease. Having gone through the process personally with a loved one and having spent over a decade conducting dementia examinations, I am acutely aware of the frustrations faced by health care providers and family members alike.

1 Dementia means you are crazy:

This could not be more inaccurate. Dementia is a mind-robbing disease that is a serious medical condition. The diagnosis means that someone's memory and thinking have changed. For providers working with Spanish-speaking populations, be aware that "crazy" or "loco" is the common connotation of the word dementia.

2 Memory loss is normal aging:

This is not true. While the speed of our thinking changes with age, our memory remains robust in the absence of disease. However, there are many things that can impact memory with aging and, therefore, an accurate and early diagnosis is important.

3 There is nothing I can do:

This is also not true. Currently available treatments slow progression of the disease, which leads to prolonged periods of time with better quality of life. Resources are available from the Alzheimer's Association to assist those with AD and their caregivers.

An accurate and early diagnosis will enable treatments to begin early when they are most effective. An early diagnosis also allows your loved one the opportunity to make his/her own decisions regarding his/her future, thereby facilitating dignity throughout the process.

You are your best advocate and the best advocate for your loved ones. There is a broad-reaching misunderstanding that memory loss is "normal aging" even within the health care system. Therefore, if you think there has been a change in your or a loved one's memory and thinking, push for a referral and examination.

What does a dementia examination involve? First, your loved one needs a medical examination by a dementia specialist. This can be a geriatrician, psychiatrist or a neurologist. In addition to conducting a medical examination, the specialist will obtain blood work and a brain scan (MRI preferably). Finally, the specialist will make a referral for a neuropsychological examination. This is when extensive "memory testing" will occur.

This comprehensive approach is required for an early and accurate diagnosis. Once the physician has all of the information in hand, she or he will pull everything together to make a diagnosis and begin the appropriate treatment, if necessary.

This comprehensive approach is important because (1) dementia and pre-dementia are common and

underdiagnosed in primary care settings and (2) research demonstrates that diagnoses are less accurate in the absence of the multidisciplinary specialty approach, particularly in the early stages of the disease. Locating a dementia specialist can be challenging and the neuropsychological testing may also be difficult to schedule. The process can take weeks and be very expensive. Most insurance will cover at least part if not all of the expenses.

New procedures (brain amyloid PET scans) are becoming available and are very accurate; however, few facilities have experience with these and insurance does not cover the cost, which is prohibitively expensive.

We and others are working on ways to fix the diagnostic process. UNTHSC has a multidisciplinary team approach readily available within the Section of Geriatrics. This clinic is called the Geriatric Assessment Program. Whether you live in Fort Worth or a surrounding community, the GAP program can provide the services you may need.

It is my hope that this article will arm you with the appropriate information so you can seek the necessary services should that need ever arise. As always, we are here to answer any questions you may have.

“An early diagnosis also allows your loved one the opportunity to make his/her own decisions regarding his/her future, thereby facilitating dignity throughout the process.”

Sid E. O'Bryant, PhD
Associate Professor, Department of Internal Medicine
Interim Director, Institute for Aging & Alzheimer's Disease Research

UNTHSC Brainiacs raised over \$2,200 from donors and student fundraisers



The Alzheimer's Association Walk To End Alzheimer's was held Oct. 2014. Our team, "UNTHSC Brainiacs," raised over \$2,200 from donors and student fundraisers. UNTHSC also supported this wonderful event by supplying over 70 student, faculty and staff volunteers. This year's walk included approximately 2,355 participants and 20 teams. It raised more than \$260,000, which exceeded the 2014 goal!

If you would like to donate or be involved in the 2015 walk, please contact Kim Brown at 817-735-2694 or kim.brown@unthsc.edu.

IS SUPPLEMENTAL TESTOSTERONE GOOD FOR MEN?

Rebecca L. Cunningham, PhD

Assistant Professor
Department of Pharmacology & Neuroscience
UNTHSC

Off-label use of testosterone, the major male sex hormone, has dramatically increased in the past decade by men to

improve their quality of life. However, we have found that testosterone has both neuroprotective and neurotoxic properties. Indeed, in men with Alzheimer's disease and high levels of oxidative stress, testosterone is associated with cognitive impairment (memory decline and

increased Alzheimer's disease severity). Our studies suggest that physicians should take into account a patient's oxidative stress levels prior to testosterone administration to avoid the negative effects of testosterone, such as increasing the risk for Alzheimer's disease.

Get to know your IAADR Faculty, Staff and Students



Eric B. Gonzales, PhD

Dr. Gonzales's research focuses on the influence that chemicals have on the nervous system. For example, how electrical signals in the brain can be altered by the dietary supplements and drugs we take. Currently, his laboratory is investigating how these chemicals influence the activity of proteins that generate these signals. Their goal is to use this information to enhance current treatments for pain and age-related disease such as Parkinson's disease and Alzheimer's disease.



Leigh Johnson, PhD

Dr. Johnson is a translational aging researcher with specific expertise determining the relationship between depression and cognition in underserved Mexican American adults and elders. Dr. Johnson is the Co-Principal Investigator of the Health and Aging Brain Study among Latino Elders (HABLE), a cohort of more than 500 Latino adults and elders.



Prashant Nedungadi, PhD

Dr. Prashant Nedungadi's research focuses on identifying interventions for management of diabetes-associated cognitive impairment. Currently his lab is working on identification of biomarkers as early predictors for cognitive decline in elderly Mexican Americans. They are also investigating the role of neurotrophins in neurocognitive & metabolic risks associated with diabetes with depression. Their goal is to prevent early brain aging in diabetic patients and to develop treatments for improved brain health.

IF YOU HAVE ANY QUESTIONS

about the information in this newsletter; the Institute for Aging and Alzheimer's Disease Research Institute at UNT Health Science Center; or would like to suggest content for future editions, please contact Kim Brown, RN, CCRC, Institute for Aging and Alzheimer's Disease Research, 817-735-2694 or email kim.brown@unthsc.edu