

Alzheimer's Disease Research Center - Fall 2014



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Preventing memory loss and Alzheimer's Disease: What you can do

It has been said that getting older beats the alternative. However, that is little comfort as we face the accompanying losses which can occur. Changes in memory and thinking even in the absence of disease can include forgetfulness, slow retrieval, problems with multi-tasking and word finding difficulty. One goal for healthy aging is to minimize these cognitive changes where possible with lifestyle and behavior modification. For example, we know the brain is dynamic and that new connections can be made well into older ages. Thus memory for some details can be improved by rehearsal or by making additional associations that help strengthen the memory. Learning behaviors that allow attention to be focused on one thing at a time can also avoid multi-tasking errors. New data encourages one to get sufficient sleep and to maintain good health with diet and exercise as these will reduce the risk of some types of cognitive worsening.

At this time however, when all is said and done, there are currently no methods to prevent memory loss or Alzheimer's disease. This is why it is so critical to conduct the research to develop new treatments to prevent memory loss and Alzheimer's dementia. Several studies are underway which offer the opportunity to participate in clinical studies designed to develop new treatments. One study that is a partnership with the National Institute of Aging and industry is known as the **A4 study**. A4 stands for *Anti-Amyloid Against Alzheimer's*. In this study we are recruiting individuals who have no memory deficit. This may include those of you who are worried about your memory as well as those who believe their memory is good and want to keep it that way. In addition, this particular study is using a treatment that targets amyloid and so we will only enroll people who have evidence of amyloid which is measured by brain imaging. Anti-amyloid drugs may have some risks and inconveniences including their

administration which is through monthly infusions. So it makes sense to only include people who actually have amyloid. This exciting study offers the opportunity to determine if this

treatment can slow memory decline. A second study is the TOMMORROW study which is using a well known anti-diabetic drug in a very low dose to slow the decline of cognitive changes in those who are at high risk for dementia and Alzheimer's disease. In this study, a new genetic marker is being studied known as TOMM40, which may predict the time to cognitive worsening and dementia. The study will not only test the marker but will also test a low dose of the drug to see if we can predict who will decline and how we can reduce the likelihood of that change. To do this participants and staff will be blind to (i.e. will not know) the treatment and marker results during the study. This is because knowing the drug or the marker could change how someone responds. This study requires only 2 visits a year after the screening is complete and may be just right for those who do not have time for frequent visits. At the same time the staff is always available to answer questions about this or any study we are conducting.

Participating in research is one of the best things we can do to prevent dementia. In almost all studies, participants have better outcomes than those who do not participate, even if they are taking placebo or are in the "inactive arm" of the study, perhaps because they get additional attention and have the opportunity to stay informed.

For more information about research at our center contact us at 212-241-8329.



Mary Sano, PhD
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La prevención de la pérdida de memoria y la enfermedad de Alzheimer: ¿Qué se puede hacer?

Se ha dicho que envejecer es mejor que la alternativa de no llegar a viejo.

Sin embargo esto no es gran consuelo cuando nos enfrentamos a las pérdidas naturales que acompañan el proceso de envejecer. Algunos de los cambios más comunes y naturales de la vejez son, la pérdida de memoria, específicamente la agilidad para recordar información. Por ejemplo: recordar información ocurre mas lentamente, a veces toma mas tiempo recordar la palabra correcta para expresar una idea y en general es mas difícil lograr la concentración necesaria para resolver problemas, y llevar a cabo múltiples tareas simultáneamente.

Se sabe que el cerebro es dinámico y que aún en la edad avanzada el cerebro puede desarrollar nuevas conexiones. De manera que haciendo pequeños cambios de comportamiento y esfuerzos específicos se puede fortalecer la memoria. Por ejemplo: recordar detalles se puede mejorar a través de asociaciones y repetición, aprender nueva información se puede mejorar prestando atención y enfocando en una sola cosa. Prestar atención y concentrarse en una sola cosa también ayuda a evitar los errores que frecuentemente ocurren al tratar de hacer varias cosas simultáneamente.

Reducir los cambios cognitivos ayuda también maximizar la salud en la tercera edad y se puede lograr al mantener un estilo de vida saludable. Algunos de los factores de riesgo que contribuyen a la pérdida de memoria disminuyen al hacer ejercicios y al consumir una dieta balanceada regularmente. Dormir bien y descansar también ayuda a mantener la salud de la memoria, un hecho que ha sido recientemente comprobado

por investigaciones clínicas. Por lo tanto a veces es necesario modificar el comportamiento y aunque esto no siempre es fácil, vale la pena. A pesar de todo lo que se sabe acerca de la memoria y la capacidad cognitiva, a esta fecha no existen métodos efectivos ni para prevenir ni para curar la pérdida de memoria que ocurre como parte de la vejez, ni tampoco para prevenir o curar la Enfermedad de Alzheimer. Es por esto que las investigaciones clínicas con el objetivo de descubrir métodos de prevención y de establecer nuevos tratamientos son tan importantes y la participación aún mas importante.

Actualmente en el Centro se llevan a cabo varios estudios para desarrollar tratamientos y métodos de prevención de la enfermedad de Alzheimer's. Uno de los estudios actuales se conoce en la industria como el **Estudio A4**. El significado del nombre del estudio es "Anti-Amyloid contra el Alzheimer". El A4 es un proyecto que se lleva a cabo en colaboración con el Instituto Nacional del Envejecimiento o NIA por sus siglas en ingles.

Prestar atención y concentrarse en una sola cosa también ayuda a evitar los errores que frecuentemente ocurren al tratar de hacer varias cosas simultáneamente.

En este estudio participan personas que no tienen déficit de memoria, que se sienten preocupadas por su memoria, así como también personas que opinan que su memoria funciona saludablemente. Este estudio en



Mary Sano, PhD, Director, ADRC

particular utiliza un tratamiento para el amiloide de manera la presencia de amiloides en el cerebro se medirá de ante mano. Solamente las personas que hayan sido formalmente diagnosticadas con amiloide en el cerebro serán invitadas a participar. Cada participante recibirá el medicamento una vez por mes y se le administrará a través de infusiones. Este método de administración puede causar algunos riesgos e inconvenientes.

Participar en investigaciones es una de las mejores maneras de ayudar a descubrir como prevenir la demencia. Casi todas las personas que participan en estudios o proyectos de investigación obtienen mejores resultados que los que no participan, aun cuando están tomando placebo o participan en el grupo de comparación y no en el grupo que toma la medicina. Tal vez la razón por la cual los participantes de estudios de investigación obtienen mejores resultados es debido a que obtienen atención adicional y se mantienen informados a cerca de las mejores maneras de manejar la condición.

Para obtener más información acerca de la investigación en nuestro centro por favor póngase en contacto con nosotros y lláme al 212- 241-8329.

Remembering Dr. Effie Mitsis



Effie Mitsis, PhD

We are deeply saddened by the loss of our dear friend and colleague Effie M. Mitsis, PhD, Associate Professor of Psychiatry. Dr. Mitsis worked primarily as a neuropsychologist at the James J. Peters VA Medical Center within the Department of Neurology.

Dr. Mitsis dedicated her career to helping patients suffering from traumatic brain injuries. Marveled with understanding what happens to the brain under distress, she spent the last eight years at Mount Sinai helping combat veterans who endured blast exposure in Iraq and Afghanistan. In her office hung a Hippocrates quote that guided her research: “No head injury is too severe to despair of, nor too trivial to ignore.” In addition to her work at the VA, Dr. Mitsis was well-regarded for her imaging research on traumatic brain injury, aging, and dementia at Mount Sinai’s Alzheimer’s Disease Research Center. Recently, she began using PET and MRI scans to investigate traumatic brain injury as a risk factor for the earlier onset of Alzheimer’s disease in individuals with mild cognitive impairment. She was also funded with an intramural grant to use florbetapir imaging to determine whether individuals, both with and without a history of traumatic brain injury, are at risk for Alzheimer’s disease or chronic traumatic encephalopathy.

Earlier this year, she published an important paper on the clinical utility of amyloid imaging for an Alzheimer’s diagnosis. One of her mentors, Dr. Mary Sano, the director of the ADRC, described it as “a manuscript that truly translated research into clinical care.”

It was just one of her many findings that have been published in prestigious peer-reviewed journals.

Dr. Mitsis entered graduate school later in life after raising two children. She received her doctorate in neuroscience and neuropsychology at the Graduate School and University Center of the City University of New York and conducted her dissertation research at Columbia University College of Physicians and Surgeons. She completed her pre-doctoral and post-doctoral fellowships in neuroimaging and neuropsychology at Yale University School of Medicine and the Veterans Affairs Connecticut Healthcare System, West Haven campus.

Dr. Mitsis died on May 7, 2014. Even when she became ill, Dr. Mitsis continued to dedicate herself to her work. Her colleagues say she never stopped thinking about how she could better the lives of those around her. We express our sincerest condolences to her loving family – her husband, Christos; her daughter, Tina, and son-in-law, Nick; her son Christopher; and her pride and joy, baby grandson, Luca. We honor Effie’s memory and will always remember the passion and vigor she brought to her research.



Corey Fernandez, BA

Following in her mentor’s footsteps, Dr. Mitsis’ research coordinator, Corey Fernandez, has recently completed two posters detailing her work on Traumatic Brain Injury (TBI) amongst veterans. She presented her poster entitled, “Resting State Functional Connectivity in Blast-Related Mild TBI in OIF/OEF Combat Veterans” at the Society of Biological Psychiatry’s Annual Meeting held from May 8 to 10 in New York City. Corey also presented her poster entitled, “Cognitive Function and DTI Tractography in OEF/OIF Combat Veterans With Blast-Related Mild Traumatic Brain Injury” at the Military Health System Research Symposium (MHSRS) held from August 18 to 21, in Fort Lauderdale, Florida. **Congratulations, Corey!**

ADRC Studies Currently Enrolling

A4 Study

The A4 study is testing a drug known as LY2062430 (also called “solanezumab”) in older individuals who have evidence of elevated amyloid build-up in their brains, but who do not yet show symptoms of AD in order to slow possible AD-related damage in the brain and to delay progression of AD-related memory loss. The purpose of this study is to test whether solanezumab can slow the progression of memory problems associated with brain amyloid. Amyloid build-up will be identified in potential participants through a special positron emission tomography (PET) scan technique. The study team is seeking healthy participants between the ages of 65 and 85, who have someone who can be a project partner (spouse, adult child, other family member, or caregiver) to provide information about their health, attend study appointments, and assist with correctly taking the study medication. **For more information , please call Michael Kinsella at 212-659-8883 or email michael.kinsella@mssm.edu.**

Principal Investigator:

Mary Sano, PhD; GCO#: 91 0208(0018) and 91-0208(0019). ISMMS IRB approved through 03/17/2015.

NOBLE Study

This study is evaluating an investigational drug for patients with mild to moderate Alzheimer’s disease that may work by protecting brain cells which would result in improved memory. Participants will receive the study drug or a placebo and participate in the study for about 14 months, which includes screening, about one year study treatment, and follow up to check safety. We will also be studying the effect of the drug on brain magnetic resonance

imaging (MRI) and cerebrospinal fluid (CSF). The study needs women and men aged 55-85 years old with mild to moderate Alzheimer’s disease who have been receiving donepezil (Aricept®) treatment for at least 6 months and who have a study partner with regular contact that can attend study visits.

To learn more about this project, please call Jaclyn Pierce at 212-659-8885 or email jaclyn.pierce@mssm.edu.

Principal Investigator:

Amy Aloysi, MD; GCO#: 91-208 (20). ISMMS IRB approved through 3/17/2015.

Markers of Transition to Alzheimer Disease in Veterans with MCI

This is a longitudinal study of aging veterans that will compare the results of memory and thinking tests as well as biological tests to see which are best at identifying who is at risk for developing Alzheimer’s disease and their rate of cognitive, functional and global decline.

To learn more about this project, please call Christopher Van Hise at 718-784-9000 ext 1704 or email christopher.vanhise@mssm.edu.

Principal Investigator:

Mary Sano, PhD; VA SAN#11-079 approved through 7/9/15.

Merck EPOCH Trial

This study is investigating the safety, tolerability, and efficacy of a medication, MK-8931, in patients with mild to moderate Alzheimer’s disease. MK-8931 is an oral, beta-amyloid precursor protein, site-cleaving enzyme (BACE) inhibitor and is hoped to slow the progression of Alzheimer’s disease. The study needs patients with a diagnosis of Alzheimer’s disease who are 55 to 85 years old, are fluent in English or

Spanish, can attend all study visits, participate in neuropsychological testing, receive MRIs, and who have a close friend or family member who can act as a study partner.

For more information about the EPOCH study, please contact study coordinator, Emily Exter, at 212-241-0438 or email emily.exter@mssm.edu.

Principal Investigator:

Judith Neugroschl, MD; GCO# 13-0701; ISMMS IRB approved through 1/6/2015.

The Study of Nasal Insulin to Fight Forgetfulness (SNIFF)

This study is investigating the safety, tolerability, and effectiveness of an insulin nasal spray when given to people with Alzheimer’s disease or mild cognitive impairment.

To learn more about this project, please call Jaclyn Pierce at 212-659-8885 or email jaclyn.pierce@mssm.edu

Principal Investigator: Hillel T. Grossman, MD; GCO: 91-208 (17), HSM: 13-00768. ISMMS approved through 10/28/2015.

TOMMORROW Study

The purposes of this study are (1) to examine two genes to see if it’s possible to predict someone’s likeliness to develop Alzheimer’s based on these inherited genes and (2) to test a drug called pioglitazone (AD-4833), which may slow the progress of Alzheimer’s disease in those who currently show no signs of the condition.

For more information about the TOMMORROW study, please call Michael Kinsella at 212-659-8883 or email michael.kinsella@mssm.edu.

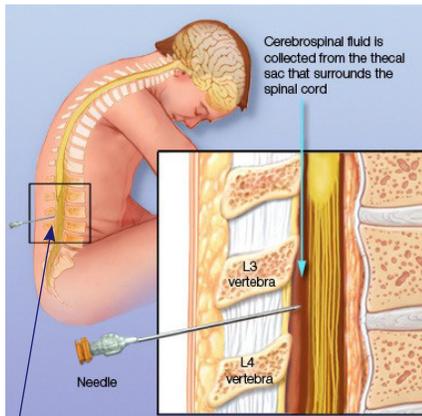
Principal Investigator: Judith Neugroschl, MD; GCO#: 13-1688; HSM#: 13-00720; ISMMS approved through 11/18/2014.

FAQ: Lumbar Punctures (LP)

An LP is an optional or required procedure for some of our studies. People often have questions about what it entails.

What is a lumbar puncture?

A lumbar puncture (LP) is a procedure in which a small amount of the spinal fluid that surrounds the brain and spinal cord is removed by inserting a needle in the lower back.



LP involves inserting a small needle near the base of the spinal cord.

How is the lumbar puncture performed?

You will either be positioned lying curled on your side, or sitting up and bent forward, whichever is easier for you. A local anesthetic may be given at the puncture site. When the area is numb, a very thin needle will be inserted into your back to collect the spinal fluid. Once the needle is in place, you may be asked to change your position slightly. About 1½ tablespoons of spinal fluid will be removed for analysis and storage. Your body replaces this spinal fluid within 1-2 hours. The needle is removed and the puncture site is covered with a bandage.

How long does it take?

The procedure usually lasts about 20 to 30 minutes, with an additional 30 minutes to rest after the procedure.

Does the lumbar puncture hurt? What are the risks and side effects?

You may feel pressure when the needle is inserted and may experience brief leg pain while the needle is positioned. During the procedure, you may have temporary back pain and/or discomfort. After the procedure, you may have a headache. There are other side-effects that are uncommon, which our physicians can discuss with you. Furthermore, there is no risk of paralysis because the needle is inserted below the spinal cord.

Participant Interview: Susan Joseph

Q: Tell us about your experience as a research participant.

I am very impressed by the professionalism and competence of the ADRC staff, as they have been supportive and helpful every step of the way. Staff members have scheduled appointments with our needs in mind and have made reminder calls. Coordinators are knowledgeable, polite, and respectful of our concerns.



Q: You had a lumbar puncture performed. Were you comfortable having this procedure?

What got me feeling confident was the stated assurance that this procedure poses no risk of paralysis. I understood that the neurologist, Dr. Goldstein, who performed the spinal tap, was a highly qualified and experienced physician. I was further reassured by Mt. Sinai's excellent reputation and by the fact that the hospital would handle any problems that might arise. Additionally, arrangements were made to make the experience as comfortable and convenient as possible.

Q: Was the lumbar puncture painful?

No. What was unpleasant was the awkward "fetal" position I had to maintain – sitting on the side of the bed, my back stretching forward, my face resting on two pillows in my lap. The procedure took around 45 minutes. Dr. Goldstein explained that he could speed it up by using a bigger needle. But the larger the needle, the more likely I would be to have a headache afterward. Understanding the reason for going slow gave me the patience to remain still for the duration.

Q: Would you recommend research participation to others?

Yes. Taking part in an investigation of the mental and physical factors that may help researchers identify the causes and early symptoms of Alzheimer's, and its treatment, is a way of contributing to society. As Alzheimer's is a dreadful disease, it is important for all of us to help with research, and I would certainly recommend participating with the ADRC to anyone interested in this field of research.

“I Remember Better When I Paint”

Written by Kelly Pun, B.A.



Berna Huebner

Despite some dreary weather, our 7th Annual Participant Appreciation Day was a success! After a welcome by event organizer and Education Core Director Margaret Sewell, Ph.D., ADRC director Mary Sano, Ph.D. discussed the next phase of Alzheimer’s research focusing on pre-symptomatic individuals. ADRC medical director, Hillel Grossman, M.D., then spoke about newly opened trials for individuals with a diagnosis

of either Mild Cognitive Impairment (MCI) or early Alzheimer’s Disease (AD). Our special guest, Berna Huebner, then took the stage to speak about the film, “I Remember Better When I Paint,” which she co-wrote and produced with the Hilgos Foundation. The film follows Ms. Huebner’s mother, Hilgos, as she rediscovers a passion for painting in the wake of her diagnosis of Alzheimer’s disease. Through her painting, Hilgos and her family find new in meaning in life through the beauty of creativity. You

can watch the trailer and learn more about this film at www.irememberbetterwhenipaint.com.

After a raffle and lunch break, the audience broke out into sessions including a caregiver group led by the co-director of the Alzheimer’s Disease Assistance Center Mari Umpierre, Ph.D., and a talk by Dr. Sewell on Maintaining Your Brain. An art group session was jointly led by Ms. Huebner and the Arts and Minds Foundation, which is a foundation working to improve the quality of life for those with AD



through engagement with art (their website is at www.artsandminds.org). If you are interested in more information about the tremendous work of Ms. Huebner and her team at the Hilgos Foundation, you can visit their website at www.hilgos.org or email her at bernahuebner@gmail.com. You can also learn more about museums in New York that offer programs for individuals with Alzheimer’s disease, by visiting http://www.alz.org/nyc/in_my_community_17047.asp.

We are very thankful to all who braved the weather to attend, and we look forward to seeing you again next year!

Patient and Caregiver Resources

Resources for Patients and Caregivers (English)

Mount Sinai ADRC

You can view information about our research programs, as well as resources for caregivers and previous editions of our newsletter on our website at www.mssm.edu/adrc

Telephone Support Group

Family caregivers of AD research participants will receive support and information, as well as the opportunity to discuss issues of concern and share coping and adaptation strategies for managing the demands of daily life when caring for a family member with AD. If you would like more information, please contact Mari Umpierre, PhD, at **212-659-8872** or email mari.umpierre@mountsinai.org

The Memory Tree

This program is designed specifically for people with mild memory problems and offers a wide variety of mental and physical fitness classes throughout the year. For more information, you can visit their website at

www.TheMemoryTree.org or contact Elizabeth Fine, LCSW, at **917-656-0588** or elizabeth@TheMemoryTree.org

Alive Inside

This film explores the power of music to calm and engage patients with dementia. You can watch the trailer and learn more about this project at <http://www.aliveinside.us>

Electronic Dementia Guide for Excellence (EDGE) Project

This initiative offers informative guidelines and resources for caregivers of patients with dementia. To access their website visit <http://www.health.ny.gov/diseases/conditions/dementia/edge/index.htm>

Mouth Care Without a Battle®

This program offers an evidence-based approach to oral care for individuals with cognitive and physical impairments. To watch an introductory video and learn more about this program, visit <http://www.mouthcarewithoutabattle.org/>

Time Slips

This project provides a platform for storytelling and sharing experiences amongst patients and their caregivers. To find out more information visit <http://www.timeslips.org/>

Wisdem

This comprehensive website is an excellent resource for caregivers seeking to better understand dementia and connect with other individuals and programs available for their loved ones. You can begin exploring at <http://wisdem.org/en/dementia-and-alzheimers-disease/interventions>

Resources for Patients and Caregivers (Español)

Sobre el AD:

<http://www.alz.org/espanol/>

Recursos en español:

http://www.alz.org/espanol/resources/sitios_web.asp#organizaciones

Centro de asistencia para personas con AD y desórdenes relacionados (ADAC): 212-659-8872

ADRC Summer Internship Program



L-R: Director Dr. Sam Gandy; Dr. Margaret Sewell; Interns Leigh Colvin and Olivia Roberts-Sano; Dr. Jane Martin; Interns Yolianda Zackschewski and Leila Abuelhiga; Director Dr. Mary Sano

Thanks to ADRC supporter Robert Kahen, the ADRC was able to offer its third summer research internship program in memory of Mrs. Moussa Kahen. Mr. Kahen's support towards future aging and memory researchers allowed our interns to attend educational lectures and outreach activities, while gaining hands-on experience with clinical and basic scientific research methods. All four interns were supervised by senior ADRC faculty on a variety of research projects that culminated in a presentation on August 4 to an audience of students and faculty members. We look forward to following the careers of these young academics!



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Smoking and Cognitive Functioning: The Dilemma

Understanding the effect of cigarette smoke on the brain is a global imperative since smoking continues to rise in developing countries at a rate of more than 3 percent per year.

Cigarette smoke consists of thousands of compounds including nicotine. Many of these compounds have known toxicity to the brain, cardiovascular, and pulmonary systems. Nicotine, in contrast, has positive effects on certain cognitive domains. Nicotine is structurally similar to acetylcholine and has been shown to improve cognitive functioning, possibly through stimulation of both $\alpha 4\beta 2$ and $\alpha 7$ nicotinic receptors which are essential for memory functioning. Decreased nicotinic activity in the hippocampus and amygdala may impair memory function. Additionally, a number of studies have found that nicotine can improve attention following both chronic and acute administration. Nicotinic treatments (e.g. nicotine patch) are being evaluated as therapeutic treatment for cognitive impairment and are worthy of study given how few options are available to improve cognitive functioning in those with memory deficits. Several initial studies have reported positive therapeutic effects on cognitive disorders, such as Alzheimer's disease and age-related memory deficits.

On the other hand, there is growing evidence that cognitive impairment and dementia is associated

with cigarette smoking. In a recent meta-analysis of 19 prospective studies, current smokers had an increased risk of dementia including Alzheimer's disease and vascular dementia, and had greater declines on cognitive testing compared to subjects who have never smoked. There are relatively few studies assessing the association between secondhand smoke and cognitive dysfunction. Secondhand smoke, defined as tobacco smoke inhaled by individuals who do not



Clara Li, PhD

smoke, contains a greater concentration of toxic and carcinogenic chemicals than the smoke inhaled by tobacco smokers. The U.S. Centers for Disease Control and Prevention reported that almost 50,000 deaths per year can be ascribed to secondhand smoke. Further studies are needed to investigate the relationship between secondhand tobacco smoke and increased risk of cognitive disorders. Establishing that exposure to cigarette smoke may contribute to cognitive loss and dementia could provide additional motivation for smoking cessation.

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alzheimer's  association®



We're on the **MOVE**
to end Alzheimer's

memory  walk®

Mount Sinai's ADRC
team **walked on**
October 19.

Thank you for your support!