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## Physical Exercise Linked to Better Memory in Older Adults

Many people worry about age-related memory problems or Alzheimer's disease (AD). A variety of different drug interventions have failed to prevent or reverse memory decline in older adults. But what if a **non-drug intervention – physical activity** – has the potential to preserve, or even enhance, memory in people at high risk of developing AD? Scientists are considering physical activity as a potential disease-modifying strategy to preserve or improve cognitive function in older adults.

Physical activity studies leave many unanswered questions. Some studies indicate that physical activity may reduce the risk of cognitive loss, but others have not been able to observe the benefit. Older adults who are physically active perform better on memory tests than those who are more sedentary, according to researchers from Boston University. "Knowing that a lack of physical activity may negatively impact one's memory abilities will be an additional piece of information to motivate folks to stay more active," Scott Hayes, Ph.D., Assistant Professor of Psychiatry at Boston University School of Medicine said in a news release. In one of the largest clinical trials in sedentary elders who were cognitively healthy, physical activity improved mobility but did not benefit performance on measures of memory or thinking. It may be that a benefit can only be observed in those

with some cognitive problems. Another question is what type of physical activity provides the best cognitive benefit? For example, is aerobic activity such as fast walking or running better than resistance training or stretching?

The **EXERT** study is a national trial sponsored by the National Institute of Aging (NIA) and will compare stretching and aerobic exercise in people with Mild Cognitive Impairment (MCI).

**Clara Li, Ph.D., Assistant Professor of Psychiatry at Mount Sinai** is the Principal Investigator at our ADRC. "Mild memory loss is often one of the first signs of Alzheimer's.



Clara Li, Ph.D.

Learning more about what physical activity does to the brains of older adults with mild memory problems will ultimately help treat these patients and reduce their risk of developing Alzheimer's." Participants in this study will receive a **free 18-month membership to the YMCA, personal trainer for 12 months**, personalized exercise program, and medical evaluation. For more information, contact research coordinator, **Florence Lau** at 212-241-8329 or by email at [florence.lau@mssm.edu](mailto:florence.lau@mssm.edu).

## La Relación entre La Diabetes y Cognición



Corbett Schimming, MD

Al envejecer una de las preocupaciones que enfrentamos es la posible pérdida de la salud de nuestra memoria. Al envejecer la gente se pregunta si habrá medidas que se puedan tomar para prevenir la pérdida de memoria y la Enfermedad de Alzheimer's.

Actualmente no hay respuestas definitivas para estas preguntas ni tampoco hay soluciones efectivas. Los estudios de investigación indican que otra condición común en las personas mayores-que puede causar o empeorar la memoria, es la diabetes. ¿Qué pasaría si a través de la prevención o el control de la diabetes también pudiésemos lograr proteger la salud del cerebro y por lo tanto de la memoria? Aunque todavía no hay una respuesta clara, los estudios de investigación que se están realizando en Mount Sinai podrían ayudarnos a comprender si existe alguna conexión entre la diabetes y la pérdida

de memoria. Estos estudios de investigación también nos podrían ayudar a entender mejor las medidas a tomar con respecto al tratamiento y a la prevención no solo de la diabetes y si no también de la pérdida de memoria.

La diabetes es una enfermedad metabólica que le impide al cuerpo producir suficiente insulina y por esta razón aumenta los niveles de glucosa en la sangre. La diabetes ocasiona una cascada de problemas relacionados con el corazón, los riñones, y el sistema nervioso, además puede afectar la visión y definitivamente aumenta el riesgo de desarrollar otras enfermedades. La diabetes tiene un alto costo para los millones de estadounidenses que la padecen.

Recientemente estudios de investigación han demostrado que la diabetes también puede afectar la forma en que funciona el cerebro, incluyendo cómo funciona la memoria. A medida que las personas con diabetes van envejeciendo el riesgo de desarrollar problemas de la memoria puede aumentar. Un grupo de investigadores en Mount Sinai se ha interesado en estudiar y entender a fondo cómo afecta la diabetes al cerebro. El cerebro es un órgano muy importante de manera que hay que protegerlo a cualquier costo.

El objetivo central del estudio que se lleva a cabo actualmente en el Centro Medico de Mount Sinai es entender mejor la relación entre la memoria y la diabetes. Con este propósito se van a evaluar las facultades de memoria en dos grupos, personas con diabetes, y personas que no padezcan de la condición. Los resultados de ambos grupos se compararan para a ver si existen diferencias entre ambos. Se invitara a miembros de grupos minoritarios, tales como a personas de origen latino, de 50 años o más, sin problemas de memoria grave a participar en este estudio. Como la incidencia de diabetes es alta entre los latinos y otras minorías, es crucial lograr que personas de origen latino y de otros grupos minoritarios participen. Como parte del estudio también se obtendrán imágenes del cerebro y pruebas de laboratorio.

Si se comprueba que la diabetes afecta la memoria los investigadores continuaran estudiando con detalle la relación entre la diabetes, los marcadores biológicos de la enfermedad de Alzheimer, y de otras enfermedades de la memoria.

**Para obtener más información acerca de este estudio que comenzará pronto por favor póngase en contacto con el coordinador de investigación Kirsten Evans en 718-584-9000 Ext. 1704; [Kirsten.evans@mssm.edu](mailto:Kirsten.evans@mssm.edu).**

## Learning more about diabetes and cognition. The Memory and Diabetes Study.

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Many people get concerned about their memory as they age and ask if there is anything that can be done to prevent memory loss and Alzheimer's disease. Although there are currently no easy answers to this question or simple pills to take, research studies do show that another common condition in older people—diabetes—may cause or worsen memory problems. What if, by preventing or controlling diabetes, patients could also protect their brains in the process? While we don't have a clear answer to this and other questions about how to prevent dementia, research currently being done at Mount Sinai could help us better understand the links between diabetes and memory loss and what doctors can do about it.

Diabetes is a condition that causes blood sugar levels to go too high, leading to a cascade of related problems that affect the heart, kidneys, nervous system, and eyes, among others. It is an extremely common disease and leads to substantial healthcare expenditure, illness, and disability for millions of Americans. We are beginning to learn how much diabetes also affects the brain, something most of us want to protect at all costs!

Researchers at Mount Sinai's ADRC are currently recruiting individuals to participate in the Memory and Diabetes Study (MADS), a study sponsored by the National Institute on Aging (NIA). This study looks at the relationship between diabetes and memory among minority individuals. Minorities are often poorly represented in studies of memory, and given the high rates of diabetes in these communities, learning more about how diabetes affects memory will ultimately help treat these

patients and keep them healthy. The primary aim of the study is to test the memories of people with diabetes and compare the results with patients who do not have diabetes. In addition, researchers will also obtain brain scans and get lab tests to better understand the connection between diabetes management and markers of Alzheimer's disease and other forms of severe memory loss.

We are recruiting individuals over age 50 from minority backgrounds—because this group is often at highest risk for diabetes and is frequently understudied—who are not experiencing severe memory problems. **To learn more, contact Kirsten Evans at 718-584-9000 ext. 1704 or at [Kirsten.evans@mssm.edu](mailto:Kirsten.evans@mssm.edu).**



## Clinical Studies Currently Enrolling Volunteers

### EARLY Study

Scientists believe Alzheimer's disease is caused by the build-up of a protein in the brain called beta-amyloid. The EARLY study is investigating whether a new medication (JNJ-54861911) can delay or prevent memory loss in older adults with elevated levels of brain beta-amyloid before they have symptoms of Alzheimer's disease. This is a placebo-controlled trial, in which participants will be randomly assigned to receive a low or high dose of the medication or a placebo. The EARLY study is recruiting healthy adults between the ages of 60-85 who are worried about developing Alzheimer's Disease. Participation requires taking the medication by mouth every day for 5 years, regularly attending follow up safety visits at Mount Sinai, and having a close friend or family member who can act as a study partner. For more information, please contact **Emily Lampshire at (212)-659-8301** or by email at [emily.lampshire@mssm.edu](mailto:emily.lampshire@mssm.edu). Principal Investigator: Mary Sano, PhD. GCO#: 17-0707; HSM#: 17-01385. ISMMS IRB approved through 4/3/2019.

### MIND (NIC) Study

Nicotine has been proven to stimulate an area of the brain important for memory and thinking. The Memory Improvement through Nicotine Dosing (MIND) study is looking at whether or not a daily dose of nicotine, through a transdermal patch, will have a positive effect on early memory loss. The study will consist of 12 visits over a 2-year period. Participants will receive either daily nicotine or placebo patches. We are looking for non-smoking adults ages 55-90 who notice changes in their memory or whose family members notice changes. Participants must also have a study partner who has regular contact with the participant and can attend all study visits. There is no cost to participate in this study. For more information, please contact **Allison Ardolino at (212)-241-0438** or by email at [allison.ardolino@mssm.edu](mailto:allison.ardolino@mssm.edu). Principal Investigator: Clara Li, PhD.; GCO#91-0208(30), HSM# 17-00245; ISMMS IRB approved through 4/17/2019.

### Grape Seed Extract Study

The Grape Seed Extract Study is assessing the effect of grape seed extract in people with Alzheimer's to determine the safest and most effective dose. Grape seed extract is a natural product that has been shown in laboratory studies to block the formation of brain toxic proteins involved in Alzheimer's disease. Participants will either receive the active compound or a placebo. We are looking for older adults who are experiencing memory loss that may be due to Alzheimer's disease, who are fluent in either English or Spanish, and who have someone who can act as a study partner. There is no charge to participants. For more information, contact **Florence Lau at (212)-241-8329** or by email at [florence.lau@mssm.edu](mailto:florence.lau@mssm.edu). Principal Investigator: Hillel T. Grossman, MD. ISMMS PPHS approved through 11/30/2018. (GCO #09-0307).

### Memory and Diabetes Study (MADS)

Studies suggest that diabetes may cause or worsen memory problems in older adults. We are looking to compare memory functioning in older adults with diabetes and those without the disease. We are recruiting individuals over age 50 from minority backgrounds—because this group is often at highest risk for diabetes and is frequently understudied—who are not experiencing severe memory problems. To learn more, contact **Kirsten Evans at (718)-584-9000 ext. 1704**. Principal Investigator: Corbett Schimming, MD. Study Sponsored by: The National Institute on Aging (NIA) of the National Institutes of Health. ISMMS GCO #84-119 HSM #14-01098; IRB approved through 01/26/2019.

## EXERT Study

EXERT is a phase 3, multi-center 18 month trial examining the effects of low intensity stretching, balance, and range of motion exercises versus high intensity aerobic exercise on cognitive function and on biological markers of Alzheimer's disease in older adults with mild memory loss. Participants will exercise at a participating local YMCA under the supervision of a personal trainer; they will complete their assigned exercise program four times per week for 18 months. In the first twelve months of the study, two of the four weekly sessions will be supervised by the trainer. In the final six months, participants will continue to complete their assigned exercise program at the YMCA without supervision. We are looking for people who are experiencing mild memory loss or lapses, are between the ages of 65 and 89, have a study partner available, and would be able to travel to either the Harlem YMCA on 135th St. or the Vanderbilt YMCA on 47th St. Interested parties should call **Florence Lau at (212)-241-8329** or [florence.lau@mssm.edu](mailto:florence.lau@mssm.edu). Principal Investigator: Clara Li, Ph.D.; GCO #16-2044 approved through 2/20/2019.

## Biogen Study

This study evaluates the efficacy and safety of a drug (aducanumab or BIIB037) in individuals who are experiencing Alzheimer's disease related symptoms such as cognitive impairments and memory loss due to elevated levels of amyloid protein in their brains. Scientists believe an increased amount of amyloid in the brain plays an important role in the development and progression of Alzheimer's disease. We are looking for participants between the ages of 50-85 with Mild Cognitive Impairment (MCI) due to Alzheimer's disease. It is required that participants have a study partner who can provide information about the participant's health and attend appointments. There is no cost to participate in this study and participants can receive reimbursement for specific costs. For more information, contact **Allison Ardolino at (212)-241-0438** or [allison.ardolino@mssm.edu](mailto:allison.ardolino@mssm.edu). Principal Investigator: Amy Aloysi, MD; GCO# 16-1623:HSM#-16-00912. GCO Approved 8/9/17-8/8/18.

## TAN-SNIP Study

The TAN-SNIP study is an observational study that will include taking pictures of the brain to see if there are any brain changes present in those who have the risk factors for heart disease, or whom have normal to mild cognitive impairment. The purpose of this study is to determine the presence of risk factors for heart disease such as high level of fat in the blood, high blood pressure, diabetes and obesity, and clogging of the arteries in people who have difficulty with memory, attention, and/or concentration. In addition we will determine if these risk factors for heart disease also cause problems with activities of daily living, motivation, depression symptoms and the likelihood to keep a healthy lifestyle. The study team is seeking healthy participants between the ages of 60 and 85, who can attend study appointments (with or without a study partner) and are not taking any Alzheimer's disease medications. Participants will not have to pay for investigational diagnostic procedures, and will be reimbursed for certain traveling expenses needed to attend clinical visits throughout the study. This research will take place at Mount Sinai's Upper East Side campus. For more information about the TAN-SNIP study, please contact **Nelly Velasco at (212)-241-8329** or [nelly.velasco@mssm.edu](mailto:nelly.velasco@mssm.edu). Principal Investigator: Valentin Fuster MD, PhD, FACC; GCO#: 14-0701(0003); HSM#: 15-0538; ISMMS IRB approved through 7/27/18.

## ADRC Happenings



Alison Goate, DPhil

### Genetics and Genomics Core Funded

Alzheimer's disease is the most common form of dementia but has no effective prevention or treatment. Understanding the genetic architecture of Alzheimer's disease is increasingly important in characterizing the onset and progression of the disease. In 2017, the **Genetics and Genomics Core** that was established in 2015 by Dr. Alison Goate, a renowned molecular geneticist who heads Mount Sinai's Ronald M. Loeb Center for Alzheimer's Disease, was funded as a core of our Mount Sinai ADRC. The goal of the Genetics and Genomics Core is to generate genetic and genomic information on samples of cognitively normal and demented individuals who are being studied as part of funded longitudinal studies of aging and dementia and to provide easy access to genomic data on these participants. It is anticipated that collection of these data will facilitate clinical and basic science investigations of the pathogenesis of AD.

### A Warm Welcome to our New Research Coordinators



Yoni Greenberg



Gargi Padki & Nelly Velasco



Kirsten Evans



Allie Ardolino



Last summer's ADRC College Summer Interns, our biggest group yet: L-R: Back row: Dr. Alison Goate, Reagan Menz, Megha Gangadhar, Alex Acaba, Liz Siefert, Dr. Mary Sano, Dr. Jane Martin; Front row: Dr. Judith Neugroschl, Eric Parker, Dr. Margaret Sewell, Lily Meyersohn.



Drs. Margaret Sewell and Judith Neugroschl, Directors of the ADRC's Education Core, joined thousands of others at last spring's March for Science in NYC to show support for publically funded science and scientists.

## Caregiving Corner

Caregiving for a loved one with dementia is Teamwork! The National Institute on Aging provides some helpful tips:

### Talk about caregiving responsibilities

- Set up a family meeting to define the tasks early on.
- Select a calm time to discuss care wanted now and what might be needed in future.
- Decide in advance—not during an emergency—who will be responsible for which tasks.

### Split up the responsibilities

- Start with your strengths—what are you good at? Talking to doctors? Keeping everyone connected? Providing support and cheer? Managing the bills?
- Consider your limits: be realistic about how much you can do and what you are willing to do.

### Caregiving from far away

- While the spouse/sibling who lives closest often becomes the primary caregiver, you can help by providing support and occasional respite to the primary caregiver.
- Stay in touch, and listen.
- You might be able to help with things online such as hiring nursing aides, researching medicines, or paying bills.

Cuidar a ser amado/querido con demencia es un trabajo de equipo! La Institución Nacional de Envejecimiento da algunos consejos útiles:

### Hablar sobre las responsabilidades de cuidado

- Establecer una reunión familiar para definir las tareas desde el principio
- Seleccione un momento de calma para discutir el cuidado que necesita actualmente y lo que podría ser necesario en el futuro
- Decida por adelantado—no durante una emergencia—who será responsable de que tareas.

### Divida las responsabilidades y tareas

- Comience con sus puntos fuertes—defina sus fortalezas.
  - ◇ Hablando con los doctores,
  - ◇ Manteniendo a todos conectados,
  - ◇ Brindando apoyo y animo o
  - ◇ Administrando las cuentas
- Considere sus límites: sea realista acerca de cuánto usted puede hacer y qué está dispuesto a hacer.

### Cuidando a distancia:

- Mientras que el esposo/a o el hermano/a que vive más cerca usualmente se convierte en el cuidador principal, usted puedes ayudar brindando apoyo y un respiro ocasional al cuidador principal
- Manténgase en contacto y escuche.
- Es posible que pueda ayudar con cosas en línea (o Internet) como contratar ayudantes de enfermería, investigar medicamentos o pagar cuentas.

## **ALZHEIMER'S DISEASE RESEARCH CENTER**

**One Gustave L. Levy Place, Box 1230**

**New York, NY 10029-6574**

**Phone: (212) 241-8329**

**Fax: (212) 996-0987**

**Email: [margaret.sewell@mssm.edu](mailto:margaret.sewell@mssm.edu)**



**Icahn  
School of  
Medicine at  
Mount  
Sinai**

## **Join us May 21st for our annual Participant Appreciation Day!**

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Every year, the ADRC hosts a day of information and celebration for all the families who are part of our center, and for friends and community members who would like to learn more about what we do.

### **Lunch! Prizes! Fun & Information!**

#### **Everything you wanted to know about memory and aging**

- What's new in aging and dementia prevention research
- Panel of doctors to answer all your questions about memory and aging
- Brain fitness session
- Break-out groups in Spanish
- Caregiver support groups

**When:** Monday, May 21st, 2018: 10:00 A.M.--2:00 P.M.

**Where:** 1425 Madison Avenue (at 98th Street), Icahn Building, Goldwurm Auditorium

**RSVP:** You **MUST** RSVP to attend so we have enough food for everyone! **PLEASE CONTACT** Florence Lau at 212-659-8885 or [Florence.Lau@mssm.edu](mailto:Florence.Lau@mssm.edu)