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## State-of-the-Art Facility Empowers Collaboration

The Center of Excellence on Brain Aging recently inaugurated a new facility at 145 East 32 Street. The state-of-the-art, 15,000 square foot facility promotes collaboration and teamwork, uniting the COE's existing clinical care centers with its well-established clinical research programs focused on healthy brain aging, Alzheimer's disease, Parkinsons disease, and other neurodegenerative cognitive disorders.

Clinical services and research, including the clinical components of the NYU Alzheimer's Disease Center (ADC) and the Center for Brain Health (CBH), clinical trials, the Pearl Barlow Center for Memory Evaluation and Treatment and the NYU Parkinson and Movement Disorders Center are situated on the second floor. Patients and study participants benefit from the client-centered waiting area and exam rooms, advanced technological capabilities, such as a psychometric testing lab and Transcranial Magnetic Stimulation (TMS) lab.



*Clients are greeted in the expansive waiting area by administrative assistants from the ADC, Pearl Barlow, and Parkinson's respectively (from left to right). This represents the first stop in streamlining our varied services.*

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## Enjoying Life Together

While there are still no drugs available that can stop the progression of Alzheimer's disease, you can slow the progression of some of the losses usually associated with the illness and improve quality of life for both the person with the disease and for yourself. You can continue to share enjoyable experiences with your relative who has AD if you choose suitable activities, adapt others to fit the strengths and limitations of the person and attend events together that are designed for people with AD and that you both can enjoy. Here are some points to consider as you plan your time together.

- **The stage of the person with AD**

Although each person is unique, people in the early stage can generally continue to enjoy activities they liked before they became ill if they are suitably modified.

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# The Subjective Cognitive Impairment Stage of Eventual Alzheimer's Disease



Barry Reisberg, MD, PhD

Middle aged and older persons frequently notice that their memory for such things as people's names and where they have placed things is not as good as it was five or ten years previously. More than 25 years ago, Dr. Barry Reisberg (with his colleagues Dr. Steven Ferris and Dr. Mony de Leon) surmised that these symptoms

indicated an elevated risk of eventual Alzheimer's disease (AD). In 1986, he estimated that this Subjective Cognitive Impairment (SCI) stage in those destined to receive an AD diagnosis lasts about 15 years before the Mild Cognitive Impairment (MCI) stage of eventual AD, and begins more than 20 years before AD is diagnosed..

Verifying the extent to which SCI predicts eventual MCI and AD has been difficult. A few years ago we examined outcomes of SCI persons followed over an average interval of 9 years found that the SCI persons progressed to

MCI or dementia at approximately the rate expected for a 15 year preclinical stage. Using resources from the ADC Neuroimaging Core, we also have shown differences in brain and body functioning between older people with SCI and healthy persons of a similar age who do not have subjective memory complaints. Dr. Mony de Leon and his associates found a hormonal difference between SCI and normal aged persons and Dr. Lisa Mosconi and her colleagues demonstrated that brain energy utilization is lower in persons with SCI than in aged persons without subjective complaints. It should be kept in mind that these are average differences between groups, and while individuals with SCI are at increased risk, most will not develop AD.

As a result of these findings, we at the ADC are beginning a study to test potentially useful ways to slow the progression of eventual AD beginning in the SCI stage, It is our hope that we might be able to delay the development of AD by treating persons in this very early, SCI stage, more than a decade before obvious symptoms of AD become evident.■

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## State-of-the-Art Facility Empowers Collaboration

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The fifth floor serves as the COE's nucleus, and houses the directors of the research programs, the Center for Brain Health, data management and statistical services and administration . Through video-conferencing capability, this facility brings clinicians and clinical and basic science researchers together regularly to share a dialogue and develop cross-disciplinary projects to advance research on brain aging and dementia Collaboration on this level will accelerate development and translation of innovative prevention, treatment and care at every level of research from the lab bench to the community. ■



*Support group participants and their caregivers have access to their own space in the new facility*

# Director's Note

The NYU Alzheimers Disease Center (ADC) has been supported by the National Institute on Aging since 1990. There are 30 ADCs across the United States which provide core resources for the important work of local scientists who are studying the nature, causes and treatment of Alzheimer's disease (AD) and related disorders. Well-diagnosed patients and normal older adults who are re-evaluated annually at the ADCs, provide clinical data and biological material, such as blood and cerebrospinal fluid (CSF) essential for the understanding of normal brain aging and dementia. Participants who donate their brains at the time of death provide brain tissue essential for confirmation of changes observed clinically. ADCs also train new scientists and educate health care providers and the public about the results of their research on aging and AD. Our ADC at NYU is unique as one of the only Centers with an additional core facility focusing on neuroimaging and a unique core to provide resources for the study of psychosocial interventions for patients and family members. The neuroimaging core provides researchers with cutting edge data from MRI and PET scans that supports pioneering research on the early brain changes associated with cognitive decline. The psychosocial core provides rich information on caring for a relative with dementia and on the psychological and emotional consequences of memory loss and dementia and supports research on the effectiveness of interventions to reduce the impact of AD.

It is exciting to report that over the past 19 years, the research affiliated with the ADC has evolved from an initial focus on better understanding the causes and improving the treatment of AD, to an increased focus on early diagnosis treatment and prevention. Our NYU scientists previously contributed to the recognition and understanding of mild cognitive impairment. Two other active studies have completed enrollment. The Identity study is testing the effectiveness of a gamma secretase inhibitor compound (Lilly LY450139) in reducing the production of beta-amyloid, thereby possibly slowing the rate of disease progression. Another trial targeted at slowing the rate of disease progression utilizes a novel compound called a RAGE Inhibitor (Pfizer TTP-488) which may inhibit the production of beta-amyloid in mild to moderate AD participants. nt (MCI) as a very early stage of AD. Now, with federal funding for the Center for the current 5 years, we widened our focus to include the study of the transition from "normal" brain aging to the earliest pathology caused by AD, and to the development and testing of new treatments that may eventually lead to AD prevention. This new research requires the participation of healthy older adults willing to contribute their time so that future generations will not have to worry about AD. Success in this important endeavor depends on the partnership between the ADC and our valuable participants.



*Steven Ferris, PhD*

A handwritten signature in black ink that reads "Steven Ferris". The signature is written in a cursive, flowing style.

# Current Studies at NYU ADC

## TREATMENT STUDIES

### *Clinical Trial of Anti-Amyloid Antibody Bapineuzumab in Mild to Moderate Alzheimer's Disease*

We are currently enrolling participants for a clinical trial that involves an "immunotherapy" treatment approach. This phase III study (Elan/Wyeth) tests the safety and effectiveness of Bapineuzumab, an experimental antibody treatment that may remove or reduce beta-amyloid, which is one of the important toxic proteins that contribute to the development of Alzheimer's disease (AD). It is hoped that this treatment may slow the further progression of the disease. This study is enrolling patients with mild to moderate AD who will receive one of three doses of either the experimental drug or placebo for up to 18 months. Study participation involves intravenous infusion of study drug, periodic visits to the study center, as well as repeated MRI scans. *To receive more information about this study, please call Erica Maya or Jessica Lerer at 212-263-5845 or 212-263-5708.*

### *Clinical Trial of Anti-Amyloid Antibody Treatment with IGIV in Patients with Mild to Moderate Alzheimer's Disease*

We will soon begin enrolling participants for a clinical trial to test the safety and effectiveness of Intravenous Immune Globulin (IGIV, Baxter) or placebo in participants with mild to moderate Alzheimer's disease (AD). It is hoped that this treatment will interrupt the processing of a protein in the brain, beta amyloid, which is thought to play an early role in the pathology of AD. This study will enroll patients with mild to moderate AD. Study participation involves regular visits to the hospital, repeated MRIs, and biweekly infusions both at NYU and eventually in the participants' homes over 18 months. *To receive more information about this study, please call Erica Maya or Jessica Lerer at 212-263-5845 or 212-263-5708.*

### *Clinical Trial of Dimebon for slowing the progression of Alzheimer's Disease*

This trial is testing the effectiveness of a novel antihistamine compound (Dimebon) as a potential treatment of mild to moderate Alzheimer's Disease. Eligible participants who are diagnosed with AD will receive one of two doses of Dimebon or placebo for 12 months. Study participation involves approximately ten visits to the study center over twelve months with repeated safety and memory evaluations. *For more information about this study, please call Erica Maya or Jessica Lerer at 212-263-5845 or 212-263-5708.*

### *Clinical Trial of BMS-708163 in the Treatment of Patients with Mild Cognitive Impairment*

This current study seeks to determine the possible effectiveness of BMS-708163 (an experimental gamma-secretase inhibitor drug) versus placebo in patients with MCI over a 24 week treatment period and a follow-up period of an additional 28 weeks. The additional 28 week

follow-up period included in this study will provide important prospective 1-year observational data to characterize disease progression in the study treatment and placebo groups with regard to clinical assessment scales, cerebrospinal fluid (CSF) and blood biomarkers, and volumetric MRI in patients with MCI. *For more information, please call Erica Epstein or Jessica Yunger at 212-263-5845 or 212-263-5708.*

### *Clinical trial of Anti-Amyloid Antibody LY2062430 in Mild to Moderate Alzheimer's Disease*

We will soon begin to enroll participants in a clinical trial to test the safety and effectiveness of intravenous LY2062430 or placebo in participants with mild to moderate Alzheimer's Disease. It is hoped that this treatment will interrupt the processing of beta amyloid, a protein thought to play an early role in the pathology of AD. This study will enroll patients with mild to moderate AD. Study participation involves regular visits to the hospital, repeated MRIs and monthly infusions at NYU. *To receive more information about this study, please call Erica Epstein or Jessica Yunger at 212-263-5845 or 212-263-5708.*

### *Other Active Trials*

Three other active studies have completed enrollment. The Identity study is testing the effectiveness of a gamma secretase inhibitor compound (Lilly LY450139) in reducing the production of beta-amyloid, thereby possibly slowing the rate of disease progression. Another trial targeted at slowing the rate of disease progression utilizes a novel compound called a RAGE Inhibitor (Pfizer TTP-488) which may inhibit the production of beta-amyloid in mild to moderate AD participants. The third study, HBH, , which is now closed to enrollment, examining the feasibility and accuracy of at-home methods of evaluation over the next four years. Participants include men and women age 75 and over, who do not have Alzheimer's disease (AD). Such at-home evaluations eventually may be applied to future clinical trials, making them more available and convenient for patients and caregivers.

## EARLY AD DIAGNOSIS

### *Longitudinal Study of Normal Aging, Mild Cognitive Impairment (MCI) and Alzheimer's disease (AD)*

Participants receive a comprehensive diagnostic evaluation and are re-evaluated every year. The goal is to improve early diagnosis and better understand the clinical course and causes of age-related cognitive decline and AD. *For more information, please contact Thet Oo, M.D. at 212-263-8088; thet.oo@nyumc.org*

### *Positron Emission Tomography (PET) and Memory Study*

This NIH-funded program uses advanced brain imag-

ing techniques to measure the metabolic function of the brain so as to predict future cognitive impairment. This longitudinal imaging study of elderly individuals uses a new amyloid imaging scan and a proven glucose metabolism scan to better understand the differences between successful aging and the progression to memory impairment and to Alzheimer's disease. We are developing and testing a profile of measures to identify those at increased risk for future memory impairment. Study recruitment includes individuals between 40-90 years with and without memory problems. *For more information, please call Schantel Williams at 212-263-7563.*

#### *Cerebral Spinal Fluid (CSF) Study*

This study seeks to develop a specific early AD diagnosis based on analysis of cerebrospinal fluid. This NIH supported project evaluates whether the amount and type of amyloid and tau proteins (proteins associated with AD) and isoprostanes (markers of oxidative stress) that are found in the CSF are related to memory changes and the brain shrinkage seen in MRI studies. These markers may be useful to screen early AD and to potentially follow progression and track response to treatment. Participants include normal individuals over 40 years of age, individuals with memory problems, mild cognitive impairment and AD. *For more information, call Dr. Kenneth Rich at 212-263-7563.*

#### *PET-Amyloid Diagnostic Clinical Trial*

The goal is to test a new method (Bayer Healthcare) for earlier/more effective detection of Alzheimer's disease (AD). Improved early diagnosis will facilitate early treatment and differentiation from other illnesses. We know that when AD begins, a protein (beta-amyloid) forms plaques in certain parts of the brain. Since the drug ZK 6013443 binds to this protein, it is made radioactive and used as a tracer with an imaging method called positron emission tomography (PET). This method provides brain images showing whether there is amyloid in the brain. We are looking for healthy individuals over the age of 55 without memory problems. PET-ZK 6013443 results from this group will be compared to results from individuals who have a diagnosis of AD. *For more information please contact Marla Guzman at (212)263-7563*

#### *FDG-PET Study on Family History of Alzheimer's Disease*

Researchers at the Center for Brain Health recently discovered that children of mothers with Alzheimer's disease (AD) appear to be predisposed to reductions in brain glucose metabolism. These individuals may also be at increased risk for developing AD, as compared to children of AD fathers and children of parents without AD. This NIH/NIA funded study is recruiting cognitively normal individuals ages 25-85 with either a maternal or paternal family history of AD to participate, as well as individuals with no family history. The project involves measuring brain activity using a neuroimaging technique called positron emission tomography (PET). The PET scan utilizes a trac-

er called fluorodeoxyglucose (FDG), which allows the measurement of brain glucose metabolism. We will also measure proteins from blood that indicate mitochondrial activity, since altered activity of these proteins may cause increased oxidative stress and possibly increase risk for AD. Participants receive a comprehensive medical exam and also are offered medical, lifestyle and risk consultation. For more information, contact Dr. Lisa Mosconi at [lisa.mosconi@med.nyu.edu](mailto:lisa.mosconi@med.nyu.edu) or Rachel Mistur at [rachel.mistur@med.nyu.edu](mailto:rachel.mistur@med.nyu.edu). You can also reach us at 212-263-7563.

## HELPING CAREGIVERS

#### *Counseling and Support for People Caring for a Parent with Alzheimer's Disease*

The purpose of this NIH-funded study is to determine the effectiveness of a comprehensive counseling and support intervention for people who care for parents with Alzheimer's disease. Participants are randomly assigned to one of two interventions. All have access to resource information and support from experts as needed. Those in the enhanced group meet with a counselor individually and with other family members. Based on an earlier program, we expect that all participants will experience significant benefits to their well-being, including reduced stress and depression and postponed nursing home placement of their parents. If you are the 'primary' caregiver of the person with a diagnosis of dementia (i.e., the first person called if the patient is in need of help) and a daughter, son, daughter-in-law, or son-in-law of the person with AD and *would like more information, please contact Olanta Barton at 212-263-5710 or [olanta.barton@nyumc.org](mailto:olanta.barton@nyumc.org)*

#### *Early Stage Support Group Evaluation of Outcomes*

Common concerns for people with mild AD include responses to receiving the diagnosis, disclosing the diagnosis to others, developing coping strategies for cognitive and functional loss and finding meaningful activities. This study offers facilitated support group meetings to people in the early stages of AD and an assessment of their benefits.

Previous studies suggest these groups may alleviate depression and social isolation, enhance coping skills, improve self esteem and provide education and mental stimulation in a safe environment. *For more information, please call Ursula Auclair, LCSW at 212-263-2245.*

#### *Patient and Caregiver Registry for AD patients in the Community Setting*

The purpose of this study is to test a new caregiver assessment of burden and the well-being of the person with dementia. Caregivers are eligible if their relative or close friend with dementia lives in the community (not in a nursing home). In addition, the caregiver should have at least 2 hours each week of face-to-face interaction with their relative or close friend and know his or her daily routine. The person with dementia should have been receiving one AD drug for between 2 months to 4 years OR continuous combination therapy (one AD

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# SPOTLIGHT

## NYU-ADC Receives First Global Award for Alzheimer's Psychosocial Research



Mary Mittelman, DrPH

Alzheimer's Disease International (ADI) and the Fondation Mederic Alzheimer presented

the first global award for psychosocial research in Alzheimer's and dementia to Mary Mittelman, Dr.P.H. in recognition of the best evidence-based intervention for patients with dementia and their caregivers through the NYU Caregiver Intervention.

The NYU Caregiver Intervention (NYUCI) was designed to improve dementia caregiving skills, mobilize the support of naturally existing family networks, and provide the opportunity for counseling as needed over the entire course of caregiving. It is the longest research study ever devoted to testing an intervention to improve the well-being of Alzheimer's caregivers. The study, which began in 1987, involved 406 spouse caregivers of people with Alzheimer's disease who were divided equally into two groups. The first group received enhanced counseling

and support, including six sessions of individual and family counseling, support groups, and telephone counseling for the caregiver and family members as needed. The second group received usual care, which meant that they received information and help upon request, but didn't participate in formal counseling sessions.

The intervention made it possible to keep the person with dementia at home for more than a year and a half longer than those receiving usual care. "Delaying placement was not accomplished at the expense of the caregiver's well-being," says Mittelman. "Caregivers in the treatment group were not only able to keep their spouses at home with them longer, but as a result of the intervention had greater tolerance for patient memory and behavior problems, improved satisfaction with the support provided by family and friends, fewer symptoms of depression and better physical health." A notable facet of the NYU Caregiver Intervention is the inclusion of family counseling and the availability of support for caregivers and their family members for the entire course of the disease.

"Our results suggest that support

and information alone are helpful, but generally not sufficient for family caregivers, who can benefit most from a multifaceted program that also includes individualized counseling for themselves and their family members," Mittelman added. The study was supported by the National Institute of Mental Health, the National Institute of Aging, the New York University School of Medicine Alzheimer's Disease Center, and the Florida Alzheimer's Disease Research Center.

In the past few years, the Administration on Aging and the Rosalyn Carter Institute for Caregiving have funded translations by state and community agencies to the NYU Caregiver Intervention. These include demonstration projects in Minnesota and pilot studies in Vermont and Medicaid Managed Care in New York City. The Rosalyn Carter Leadership in Caregiving Award was given to Minnesota's NYU Caregiver Intervention Project, designed and implemented by the Minnesota Board on Aging and the Alzheimer's Association Minnesota/North Dakota Chapter, in partnership with New York University's Dr. Mary Mittelman and Cynthia Epstein.

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# Einar Sigurdsson wins Alzheimer's Association's Margaret M. Cahn Research Award



*Einar Sigurdsson, PhD*

The Alzheimer's Association presented this year's Margaret M. Cahn Research Award to Einar M. Sigurdsson, Ph.D,

Associate Professor

of Physiology and Neuroscience, and Psychiatry. This award is presented every year to a researcher in New York who receives a Zenith Fellow Grant from the Alzheimer's Association. Dr. Sigurdsson, who is affiliated with the NYU-ADC and CoE, will develop therapies to clear and/or prevent toxicity of pathological tau conformers, and to

monitor this approach in vivo utilizing manganese enhanced magnetic resonance imaging (in collaboration with Dr. Youssef Zaim Wadghiri, Assistant Professor of Radiology).

Dr. Sigurdsson has pioneered a method to harness the immune system to clear pathological tau proteins. Tau proteins are microtubule-associated proteins that are abundant in the central nervous system. Under pathological conditions such as in Alzheimer's disease, self-assembly of tau proteins results in aggregates and eventually tangles within the neurons, which impair their function and lead to neuronal death and subsequent cognitive impairments.

The Laboratory for Dementia Research and Experimental Therapeutics, headed by Dr. Sigurdsson, focuses on the pathogenesis, therapy and diagnosis for age-related degenerative diseases, with a focus on Alzheimer's disease but also including prion diseases and more recently type-2 diabetes. These are all protein conformational disorders, in which a normal protein is converted to a pathological form with a high  $\beta$ -sheet structure. The scientific theme of his work is to study this conformational alteration, its consequences at the molecular- and functional level, and the factors involved in this process. ■

## Support Groups: How They Help

### *Caregiver Support Groups*

Caregivers are likely to experience a range of emotions including anger, frustration, depression, guilt, satisfaction and pleasure. Sometimes they are concerned that friends and relatives have heard it all before and therefore don't respond with the empathy and understanding they need. In a support group, participants can be sure that there will be a welcome and appreciation for their emotions and experiences from others who are also caring for a friend or relative with dementia. These words from a group member say it best: "I do not want sympathy, I want empathy. The people in my support group give me this and so much more. I no longer

feel isolated. I am accepted and can acknowledge my emotions, even negative ones. They have shown me the need to find time for myself, recognize when I am feeling stressed and to know that it is okay to ask for help." You may feel hesitant about joining a group because you wonder if it will really be helpful to you. You can explain your concerns to the leader of the group and work out a way for you to try it for a while. You may discover that it feels good to get support and understanding. Some of the inevitable challenges of caring for a person with dementia may be less upsetting and you will be better able to be good to yourself and the person for whom

you are caring. One group member found comfort in sharing the following with his support group: "My wife was my best friend. We would go to the museum together, take different routes but meet at the end of the exhibit and share what we had seen. I miss that!"

### *Early Stage Support Group:*

These days, people in the earlier stages of AD are advocating for services specifically designed to meet their needs. The NYU ADC has responded by offering a support group, especially for people with AD that is led by a social worker, in which participants can feel free to express their fears and hopes and share funny as

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## ADC Pilot Study Initiates Novel Research to Assess Perioperative Dementia

With advances in surgical techniques and anesthetic care resulting in a substantial reduction in surgical mortality and morbidity in the elderly, patients with multiple



Alex Bekker, MD, PhD

medical problems are now able to undergo complex surgical procedures relatively late in life. Despite successful surgery, however, central nervous system dysfunction is increasingly noted as a complication after cardiac and non-cardiac surgery.

Postoperative cognitive deterioration is a public health problem worthy of further study

in order to delineate risk factors, establish preventive and therapeutic strategies, and understand the underlying pathophysiology. With initial pilot study support from the ADC, Alex Y. Bekker, M.D., Ph.D. (Professor of Anesthesiology and Neurosurgery) and his group have begun a novel effort to assess the impact of common surgical procedures on the development of Mild Cognitive Impairment (MCI) and dementia. The objective are to (1) develop an animal model to examine the effects of perioperative physiological stressors as well as anesthetics on the central nervous system (CNS); and (2) conduct clinical trials to translate the results of laboratory findings into clinical practice.

Post-operative central nervous system dysfunction is a

common, costly, and potentially devastating complication in the elderly. The post-operative cognitive deterioration falls into two main categories: delirium, which may last for a few days to a few weeks; and post-operative cognitive dysfunction (POCD) which can be detected days to weeks after surgery and may last indefinitely. Research done by Dr. Bekker's group reveals it is most likely that the cause of delirium and POCD is multifactorial and may include factors such as age, decreased pre-operative cognitive function, general health status and, possibly, intra-operative events. Other risk factors for POCD are microemboli and hypoperfusion during bypass (cardiac surgery), post-operative infection, and diminished heart function. The precipitating factors may include polypharmacy, metabolic disturbances, impaired cerebral oxygen supply and cardiopulmonary bypass. Patients with Mild Cognitive Impairment are at a higher risk for developing POCD than normal elderly patients. Dr. Bekker believes that multicomponent interventions that target well-documented risk factors for neurocognitive complications may help prevent the development of post-operative dopamine. Dr. Bekker's research supports the hypothesis that the derangement of central cholinergic transmission (and possibly dopaminergic) contributes to cognitive dysfunction. These findings are being tested in two ongoing clinical trials supported by the Empire Clinical Research Investigator Award and a pilot grant from the ADC. ■

## NYU-ADC Receives First Global Award for Alzheimer's Psychosocial Research

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In September 2009, funding for new projects by AoA was extended to California, Georgia and Utah, as well as additional sites in Minnesota. In addition, funding for a translation in Nevada was provided to the Lou Ruvo Institute in Nevada by the Rosalyn Carter Institute. These projects are bringing the NYU Caregiver Intervention to caregivers from a wide variety of backgrounds and assessing the benefits and difficulties of bringing a re-

search-based intervention to the community.

Dr. Mittelman leads the Education and Psychosocial Cores of the NYU Alzheimer's Disease Center and also is Director of the Psychosocial Research and Support Program at the Center of Excellence on Brain Aging, and Research Professor in the Department of Psychiatry at NYU Langone Medical Center. ■

# New ADC Pilot Studies

**Melissa Alldred, Ph.D.** and **Helen Scharfman, H. Ph.D.**, both of Nathan Kline Institute, have been awarded pilot grants by the Alzheimer's Disease Center (ADC). These grants provide an annual opportunity for new and established investigators to receive funds to explore novel research ideas. The aim of both of these projects is to improve understanding of the onset and early progression of Alzheimer's disease, and contribute to discovering the causes of this disease.

Dr. Alldred's research examines molecular and cellular alterations in expression of specific cell types within brain regions known to be affected in both Down's syndrome (DS) and Alzheimer's disease (AD). The methods include a new technology, using a microscope attached to a laser module to select the specific subpopulations of cells which are either greatly affected or mostly spared from the deleterious effects of DS and AD. The cells are taken from a well-described mouse model of Down's

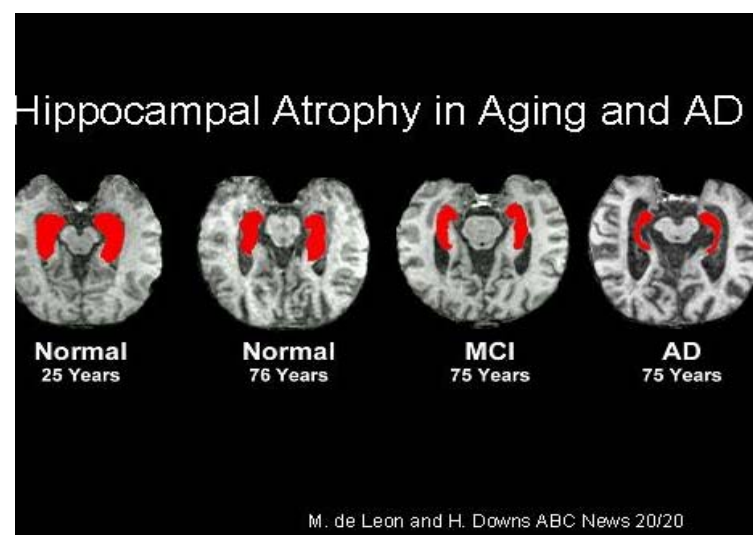
syndrome and from normal control animals and are then analyzed using a custom-designed array of genes for changes in expression levels. Genes found to be differentially regulated will be further studied.

The grant awarded to Dr. Scharfman addresses the hypothesis that an early site of pathology in AD is a collection of nerve cells that originate in a part of the cortex (the entorhinal cortex) and end in the hippocampus, the co-called temporoammonic pathway, a critical pathway for memory. Preliminary data in a mouse model that simulates AD shows that this pathway is an early site of plaque deposition. Interestingly, the plaques appear to be located at the termination of the pathway where the endings of axons are located. This is the location where synapses from cortex to hippocampus are made. A detailed analysis of the synapses will be made through Dr. Scharfman's research. The results could shed light on the reasons why AD develops, and why the areas of the brain that are most vulnerable to early changes are the entorhinal cortex and hippocampus. ■

## Research Assisted by Neuroimaging Core

The ADC Neuroimaging Core provides resources that help support three NIH supported projects involved with the early diagnosis of diseases that affect cognition in old age. These projects involve advanced high field MRI scans, Positron Emission Tomography (PET) scans, and body fluid biomarker studies. Each of these 3 areas targets the diagnosis of brain changes related to Alzheimer's disease in subjects with either minor symptoms or with no symptoms at all. Recent discoveries have been made by the Neuroimaging core are well known internationally, and available to ADC participants for consultation. The most exciting technical data involve using new methods for MRI study of brain blood flow and chemical analysis and PET studies of brain amyloid deposition and brain tissue inflammation. The current clinical projects involve ascertaining risk for symptoms in families with histories of AD and in understanding the physiological consequences of amyloid in the blood and in the brain. These research efforts are actively contributing to understanding the factors that influence dis-

ease progression. The Neuroimaging Core encourages participants to tour its labs and meet the experts. ■



*The effects of age and alzheimer's disease (AD) on the hippocampus size. the hippocampus is a brain structure critical for memory and is affected early in the course of AD.*

# Enjoying Life Together

*continued from front page*

For example, they may need to attend earlier in the day, (i.e.: a concert in the afternoon rather than the evening). A short visit with one friend may be more enjoyable than attending a big party. You both may enjoy a walk in the neighborhood, in a park or going to the supermarket).

When the person is in the middle stage you will need to be more mindful of your communication style, your response to behavioral symptoms and to the environment. You can both still continue to enjoy valued activities if you adapt them to the current abilities of the person with AD.

A person who enjoyed baking may prepare a birthday cake for a grandchild from a mix rather than from scratch and decorate it with sprinkles and chocolate bits. You can ask

a trainer or coach to create an appropriate workout for the person's physical and cognitive abilities or go accompany him or her while riding a bicycle. If the person with AD becomes restless or distracted try not to lose patience or feel disappointed and remember this behavior may be a symptom of the illness.

When the person with AD reaches the severe stage just being in the presence of each other or gently stroking the hand or humming a familiar melody can be a mutually comforting experience.

## • Adapting an activity

Successful activities support a person's sense of self – take advantage of old habits, utilize their retained skills and tap into still accessible memories. Try to choose activities that are stimulating, but not so difficult that they create frustration. When instructions are needed they should be offered in a step by step

manner and in simple direct language.

## • Attend activities especially for people with dementia and their family and friends

Three museums in NYC now have special programs designed to be comfortable and stimulating for people with dementia and their family members. The Museum of Modern Art, the Folk Art Museum and the Metropolitan Museum of Art currently offer such programs. To find out about these and other opportunities, check the Alzheimer's Association website. ■

*Additional information is available without charge from <http://www.nia.nih.gov/Alzheimers/Publications/CaringAD/> and from [http://assets.aarp.org/external\\_sites/caregiving/homeCare/engaging\\_activities.html](http://assets.aarp.org/external_sites/caregiving/homeCare/engaging_activities.html).*

## Support Groups: How They Help

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well as unfortunate events that occur as a result of the illness. The lapses that have become part of their lives are treated as a kind of "in joke" that only those who share their journey can fully appreciate. Being unsure of how to get home after going out to buy a newspaper or putting the chicken in the dishwasher instead of in the oven are the kind of experiences they openly share in the safety of the group. Similarly, group members find strength as they encourage one another and

value "how good it is to feel less alone." There is a comradeship that forms, and an appreciation for each others' triumphs; something like remembering the topic of last week's meeting never goes unnoticed. Even if group members forget each others' names, they retain the emotional memory of being accepted and valued in the company of peers. ■

*For more information about support groups at NYU ADC, please call the counselors at 212-263-5728.*

## How You Can Help

We continue to welcome your participation in Center activities and research programs. Federal support for medical research has been reduced in recent years. Thus, we increasingly depend on the generosity of our participants to help strengthen and expand our research and clinical programs, and greatly appreciate your financial support.

Please make check payable to Aging and Dementia Research Center and mail to:  
**Aging & Dementia Research Center**  
Att: Dorothy Patterson  
NYU School of Medicine  
145 East 32nd Street, 2nd Floor  
New York, NY 10016

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drug plus Namenda) for a minimum of 2 months and a maximum of 1 year after having received one AD drug for 2 months to a year. Caregivers will be asked to provide information about their own medical history and healthcare resource utilization every 3 months and will be reimbursed for their participation. *For more information please contact Olanta Barton at 212-263-5710 or at Olanta.barton@nyumc.org*

**Memantine™ (Namenda) and Individualized Alzheimer's Care**  
Are you caring for someone who is in the middle or late stage of Alzheimer's? Would you like to see them function and feel better? Would you like to solve the empty day syndrome? The goal of this study is to determine the added value of an individualized patient management program in AD patients receiving Memantine. Subjects with moderate to severe AD are eligible. All patients receive Memantine and follow-up evaluations at no charge. In addition, patients are randomly assigned to one of two groups. One group receives compensation and the other receives an individualized program consisting of caregiver training and support as well as home visits to get the patient exercising, doing enjoyable activities and

cognitive stimulation. The study duration is one year. For more information, please contact Dr. Sunnie Kenowsky at 212-263-7164 or [sunnie.kenowsky@nyumc.org](mailto:sunnie.kenowsky@nyumc.org)

## OTHER STUDIES & PROGRAMS

### *The Multicultural Program*

Our Multicultural Aging and Memory Evaluation Program offers a comprehensive, multidisciplinary evaluation for elderly individuals who present with memory complaints or symptoms of dementia or Alzheimer's disease. The mission of this program is to provide diagnostic services to the ethnic minority and underserved populations, to promote their access to early utilization of these services and to the latest research programs, and provide culturally and language-appropriate support services. For more information, please contact Dorothy Patterson at 212-263-3201, or Milena Perez at 212-263-1027 to discuss in Spanish.



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## INVITATION: Brain Donation—The Gift of Knowledge

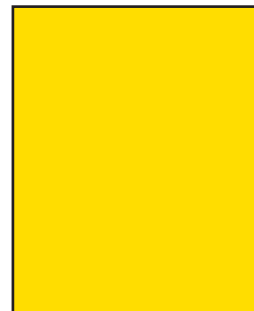
Scientists are very grateful for the generosity of the families who donate the brain of a relative for research, especially as this process has to be carried out very soon after the person's death. Brain donation is an important and generous gift, whether a person has Alzheimer's disease or has normal cognition. Examining brain tissue is the only method by which to make a definitive diagnosis of the cause of dementia. The results can provide family members with precious information that may encourage them to monitor their own brain health. Studying brain tissue also provides scientists with valuable information in their quest to unravel the mysteries of the disorders that cause cognitive impairment, giving them the opportunity to improve treatment and

ultimately to find a much sought-after cure. There is currently a severe shortage of brain tissue available for dementia research.

Many people feel that making a brain tissue donation is a way of making a valuable contribution to research into the causes and potential treatments of dementia and into normal cognitive changes that occur with aging. Please consider becoming a brain tissue donor and discuss this possibility with your family.

If you or your family are interested in enrolling or want to know more about Brain Donation, Lynne Leung our Coordinator, is available to help you. She can be reached at: (212) 263-5108 or [lynne.leung@nyumc.org](mailto:lynne.leung@nyumc.org) ■

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**Support Group Information**

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**Brain Donation Information**

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