

Emory University School of Medicine Alzheimer's Disease Research Center

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October 2009

Cognitive Rehabilitation: Retraining the Brain

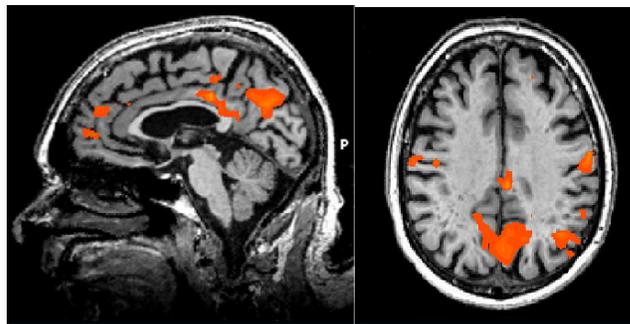
For more information about the Emory ADRC or the content of this newsletter, call 404-728-6950

Mild Cognitive Impairment (MCI) is an official diagnostic category that signifies significantly reduced cognitive functioning compared to one's past abilities. MCI often precedes the development of AD. Difficulty learning and remembering new information is a characteristic feature of AD and MCI and eventually contributes to these patients becoming increasingly more dependent on others. This loss of independence can be especially distressing to both patients and their family members.

result from cognitive rehabilitation." In fact, Hampstead and his colleagues, Dr. Krish Sathian and Dr. Anthony Stringer, are the first to combine cognitive rehabilitation and fMRI in patients with MCI.

To date, this research team has

that will utilize those regions. Conversely, we also want to find strategies that allow patients to work around areas that are impaired." Interestingly, the amount of improvement seems to be related to disease severity; a finding that



Examples of increased activity (orange), from the side (left) and top (right) of the head, after cognitive rehabilitation.

suggests earlier intervention may be critical for prolonging functioning.

An ongoing study is comparing the pattern of change in patients with MCI to those of healthy elderly individuals and will provide additional insight into

Researchers at the Emory University Alzheimer's Disease Research Center and the Atlanta VA are investigating the use of cognitive rehabilitation as a way of helping maximize learning and memory in patients who have been diagnosed with MCI. Cognitive rehabilitation is a general label for interventions that can be used to improve functioning in "thinking" abilities such as learning and memory. Dr. Benjamin Hampstead, the neuropsychologist leading these studies, says, "An especially unique aspect of this research is our use of functional magnetic resonance imaging (fMRI), which allows us to examine changes in brain activity that

examined the effectiveness of this approach by asking patients to learn and remember faces and names as well as objects and their locations. Overall, cognitive rehabilitation has significantly improved patients' memory for both types of information and, importantly, the benefits persist for at least 1 month after training. Excitingly, patients are showing increased brain activity in regions that play a role in learning and memory and that are known to be abnormal in MCI and Alzheimer's disease. Using this information, Hampstead hopes to "identify key brain regions that are functioning well and then develop or modify cognitive rehabilitation strategies

how the brain changes as a result of Alzheimer's disease as well as the types of strategies that are most effective in each group. Hampstead emphasizes, "Although there is no cure for Alzheimer's disease, we hope to improve our patients' quality of life and help them maintain their independence for as long as possible."

If you have been diagnosed with MCI or are having no more than normal age-related memory problems ("healthy elderly") and would like to take part in this research, please contact Stephanie Tucker (srtucke@emory.edu) or Pamela Phillips (paphill@emory.edu) via email or telephone (404-712-0936).

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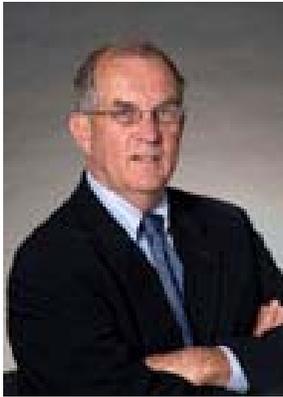
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Ken Hepburn, PhD is the leader of Emory ADRC Education Core and co-author of *The Savvy Caregiver Program*

Reasonable Goals for Savvy Caregivers

Savvy caregivers need to step outside their situations at least long enough to figure out what they ought to expect and how to gauge their own performance. They need to grade how well they're doing as caregivers and how well they're doing in preserving the care recipient's most precious resource – themselves.

So how good you are as a caregiver? Consider what's a realistic goal for what you're doing. Caregiving – like the disease itself – is in the here-and-now, not in the past or in the future. Restoring the person to previous function isn't possible, nor is stopping the decline that the disease has begun. So the only reasonable goal is to work with the person to make each day as pleasant and engaging as possible – to see to it that, for as many activities as possible, the person is zeroed in or focused on doing something s/he seems to enjoy doing.

It's useful to keep in mind that every activity is an

opportunity for pleasant engagement. The day doesn't have to be full of "big events." Getting dressed, helping to dry dishes, or taking a walk all present chances to help the person to be happy in the present moment. As a caregiver, you know the kind of pace and level of complexity of activity that the person can handle. Keeping yourself to that pace and being sure that what you're asking the person to do fits with what he or she can manage are two important savvy caregiving skills.

In all of this, you have to take care of yourself. There are many things that can help with that – particularly getting help from family and friends. But one thing that is important is to be very forgiving of yourself. No one can be perfect; no one can keep the care recipient happy and engaged all the time. So learn, as you look back at each day, to take pride in the successes you've had – and also to figure out what you did to create those successes.

State-of-the-Art Imaging Center at Emory

In September, Emory took possession of a new, state-of-the-art imaging machine that allows clinicians and researchers to collect two kinds of images at once; this scanner is one of only four in the world. The new machine, a combined MR/PET (magnetic resonance/positron emission tomography) scanner, is good for patients and for the professionals who use it.

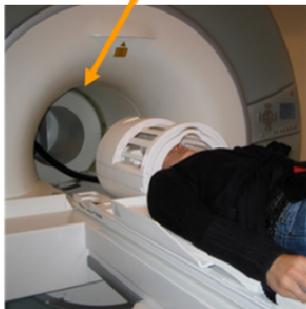
One great advantage is the convenience for both patients and investigators. Because it can capture two kinds of brain images simultaneously, it offers a shorter procedure time, something that might be particularly important for patients with Alzheimer's disease who may not be able to tolerate being in scanners for a long time. It is helpful to clinicians and researchers because the MR/PET captures images that can be easily merged and interpreted. Another great advantage is that the two images will capture two different views of what is going on in the brain at exactly the same time, something we believe will lead to

a more sensitive understanding of what is happening to a brain affected with Alzheimer's.

The PET head is a self-contained PET scanner that fits inside the tunnel of a standard 3T clinical MRI scanner. Great effort had to be expended to develop electronics that can operate in the high magnetic field environment. The picture below shows the scanner, now at the second floor of the Wesley Woods campus of the Center for Systems Imaging (CSI), one floor below the ADRC research clinic.

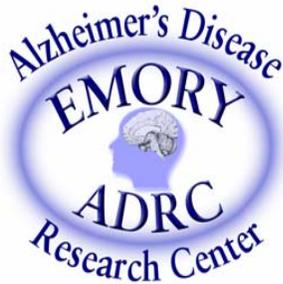
MR and PET scientists at CSI will be exploring the limits of this new device in the months to come. They have plans to use the total information collected to improve the images from the two separate elements (MR and PET). They expect that the images derived from the combined device will be superior to ones

PET-Insert



collected on stand-alone scanners. For more information, please contact Orman Simpson at the Center of Systems Imaging.

Combined MR/PET scanner, located on the second floor of Wesley Woods Health Center (one floor below the ADRC research clinic).



Clinical Trials & Research Studies Fall 2009

Emory Alzheimer's Disease Research Center

Wesley Woods Health Center, 1841 Clifton Rd., Atlanta, GA 30329

Grady Neurology Clinic, 80 Jesse Hill Jr. Drive SE, Atlanta, GA 30303

404-728-6950 <http://med.emory.edu/ADRC/>

Research Study	Eligibility	Contact Person
Honor Research Registry Longitudinal study of changes in memory and other cognitive skills	<ul style="list-style-type: none"> • Aging people over 65 with no memory problems • People of any age with mild cognitive impairment, Alzheimer's disease or other forms of dementia • Interested in participating in additional research studies at the Emory ADRC • Study partner available to participate in visits 	Katelyn Perkins 404-728-6950 kgperki@emory.edu
Registry for Remembrance: An initiative to increase awareness & participation in neurology research	<ul style="list-style-type: none"> • Ethnic persons with African Ancestry • Aging people over 60 with no memory problems or people of any age with mild memory problems or Alzheimer's disease • Study partner available to participate in visits 	LaShonda Strozier 404-728-6395 lstrozi@emory.edu
Vaccine Trials	<ul style="list-style-type: none"> • Diagnosis of mild to moderate Alzheimer's disease • Age 50 and older • Stable on medications for Alzheimer's for three months • Study partner available to accompany to all visits 	Deborah Stout 404-728-6590 dstout@emory.edu
Concert (Dimebon) Study	<ul style="list-style-type: none"> • Diagnosis of mild to moderate Alzheimer's disease • Age 50 and older • Stable on medications • Aricept is allowed 	Andrea Kippels 404-728-6443 ajkippe@emory.edu
Lewy Body Disease	<ul style="list-style-type: none"> • Diagnosis of Lewy Body Dementia • Stable on medications • Willing to spend 48 hours in a sleep research lab 	Donald Bliwise, Ph.D. 404-728-4751
Memory Rehabilitation Intervention in Amnesic Mild Cognitive Impairment	<ul style="list-style-type: none"> • Diagnosed with amnesic mild cognitive impairment • Study partner who can attend all cognitive rehabilitation sessions • Lives within 45-driving minutes of Wesley Woods Health Center at Emory University and/or will commit to come to all training sessions 	Noah Duncan 404-728-6544 nduncan@emory.edu
Cognitive Rehabilitation of Memory in Mild Cognitive Impairment	<ul style="list-style-type: none"> • Diagnosed with amnesic (single or multi-domain) mild cognitive impairment • Diagnosed as healthy control • Age 55 & older • Willing to undergo functional MRI 	Stephanie Tucker, MPH 404-712-0936 srtucke@emory.edu

Donations, January-June 2009

Madeline & Howell Adams DA Fund
 Alzheimer's Society of Atlanta, Inc.
 Wadleigh C. Winship Fund
 YPO Partners Forum
 Mrs. Anne Melanie Brent & Mr. John William Brent
 Dr. Edwin D. Davidson & Mrs. Betty Davidson
 Mr. Eugene D. Guy
 Ms. Sheila G. Humberstone
 Mrs. Sue T. Johnson
 Mrs. Denise Troiano & Mr. Kenneth Troiano
 Ms. Edith C. Waller & Mr. David B. Pinson

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 Ms. Andrea J. Kippels

In Memory of Mr. Frances X. Carr
 Mrs. Ann Carr

In Memory of Mr. Harry Lee Davis
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In Honor of Dr. James Lah
 The Estate of Harold L. Kennedy, Sr.

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 Ms. Margaret S. Lathem

In Memory of Mr. Walter E. Nix
 Ms. Marjorie E. Hicks
 Ms. M. E. Martin

In Memory of Ms. Pauline M. Smith
 Mr. Wayne Bagwell

Contributions: If you would like to make a contribution to support the Alzheimer's Disease Research Center

Enclosed is my tax deductible gift of \$_____. Please note that this contribution is:

In Memory of: In Honor of: _____

Please send acknowledgement of this donation to:

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Donor Name: _____

Address: _____

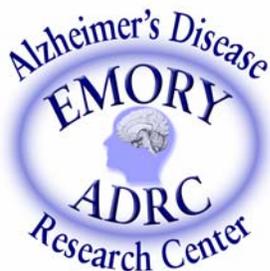
Please make checks payable to:

Emory Alzheimer's Disease Research Center

c/o Emory Univ. Health Sciences Development

1440 Clifton Road, Suite 112

Atlanta, Georgia 30322



Research Update: Summer 2009

Emory Alzheimer's Disease Research Center

Wesley Woods Health Center, 1841 Clifton Rd., Atlanta, GA 30329
 Grady Neurology Clinic, 80 Jesse Hill Jr. Drive SE, Atlanta, GA 30303
 404-728-6950 <http://med.emory.edu/ADRC/>

Success of Clinical Trials Depends on People with Mild Alzheimer's Disease

Many new medications are under development for Alzheimer's disease. However before any new medication can be approved by the U.S. Food and Drug Administration (FDA) and prescribed by a physician it must be tested and found to be safe and effective in a clinical trial. These trials often enroll people in the early to middle stage of Alzheimer's disease.

Mild (early) Alzheimer's disease is the phase where someone is having mild memory problems that may affect their ability to remember appointments, take medications at the correct time, or pay bills and balance their check book. By the **moderate (middle) stage of Alzheimer's** they may need more reminders or assistance with activities such as bathing or remembering to change their clothes regularly.

One screening tool that is used to identify disease stages is the **mini-mental status exam (MMSE)**. This 30 point questionnaire is used by many physicians when they evaluate someone with Alzheimer's disease. It is also used in many clinical trials to screen potential enrollees. An individual with an MMSE score above 20 is usually in the mild stage of Alzheimer's, while someone between 10 and 20 is in the moderate stage of the disease. Many Alzheimer's clinical trials require an MMSE score of 16 or higher to enroll in a study.

"There are other criteria in addition to the MMSE score" according to Deborah Stout, RN, Alzheimer's study coordinator at Emory. "But one of the saddest parts of my job is telling someone (and their family) that their MMSE score is too low for them to be enrolled in a study" said Stout. "If I could give any suggestion it would be to consider enrolling in a study

when symptoms are mild. Don't wait until the person is having problems in daily living to enroll in a clinical trial. The goal of research is to test medicines in hopes that they will help people continue to function at a high level."

Participants in Alzheimer's clinical trials need to be stable on current medications. Most studies allow people to continue on their current medications for Alzheimer's disease. However each study has different criteria related to medications. The study coordinator will review these with you so you can make an informed decision about participation.

The clinical trials underway now will lead to the next generation of Alzheimer's treatments according to Allan Levey, MD, PhD, Chair, Department of Neurology at Emory, and Director of the Emory Alzheimer's Disease Research Center. "Current medications for Alzheimer's (Aricept, Razadyne, Exelon & Namenda) primarily treat symptoms. Clinical trials enrolling now or in the near future, such as vaccine trials, Dimebon study, nerve growth factor gene therapy trial, may slow the progression of the disease. We want to find treatments that halt the progression of the disease and that can be started at the earliest sign of memory loss," according to Levey.

Learn More

Contact the Emory ADRC at 404-728-6950 or email speter2@emory.edu for information on clinical trials. Additional clinical trial information is available at nia.nih.gov/Alzheimers/.

alzheimer's  association®



WE'RE ON THE **MOVE** TO END ALZHEIMER'S



Nationally presented by
Genworth Financial 

For registration, dates and locations for a Memory Walk near you please visit www.georgiamemorywalk.org.

There are currently more than 200,000 Georgians living with the disease.

Emory ADRC Team will walk on October 17th in the Atlanta area event, beginning and ending at Zoo Atlanta. You can donate or join our team at www.georgiamemorywalk.org



Photograph by Phillip McCollum, McCollum Photography, Inc.

The Spring community event was jointly hosted by Emory ADRC, Home Box Office (HBO) Documentary Films and the Alzheimer's Association. It was held on May 1, 2009 at the Emory Conference Center. Attendees screened the HBO Documentary, "Momentum in Science" one of the four-part series on Alzheimer's disease released this spring. The film was followed by two panel discussions for caregivers and health professionals. Pictured above (left to right): Janet, Walley, Larry Tune, Suzette Bimford, Allen Levey, Monica Parker, Pat Conner, Carolyn Clevenger, and Ken Hepburn.

The next community education event is a panel discussion entitled, "Toolkit for Healthy Caregiving". Panelists have a range of professional experience in elder law, as support group leaders and healthcare providers. The event will be held on November 5th at the Helene Mills Senior Center, 515 John Wesley Dobbs Avenue. The event is free and open to the public. It begins at 6:30pm.

Investigational Treatment for Alzheimer's Disease Ready to Enroll Patients

Emory ADRC will soon begin enrolling patients with Alzheimer's disease in the CONCERT study, a new clinical trial that will test the efficacy of a unique investigational drug, *dimebon* in patients currently taking Aricept.

Alzheimer's is a complex disease and while current medications address symptoms for some patients, the disease often requires combination therapy to maximize clinical benefit. *Dimebon* is thought to work differently than current medications and this study will evaluate whether adding it to one of the most commonly used Alzheimer's medications will

provide more effective symptomatic treatment to patients.

In preclinical studies, dimebon has been shown to protect brain cells from damage and enhance brain cell survival, potentially by stabilizing and improving mitochondrial function. Mitochondria are critical to brain cell functioning as the primary source of energy for cells. Drugs that protect mitochondria or restore their function could potentially be a valuable treatment approach in AD.

While a cure for AD is still years away, treatments that provide lasting effects, more complete symptomatic

benefits or slow disease progression would be meaningful advances for patients and caregivers; there is an urgent need for patients to participate in clinical trials to help advance the understanding of how Alzheimer's disease can be better treated.

For more information on eligibility and enrollment, patients and caregivers can call Study Coordinator, Andrea Kippels, at 404-728-6443 or the CONCERT study hotline toll-free at 1-877-888-6386, or visit <http://med.emory.edu/ADRC/> or www.concertstudy.com.

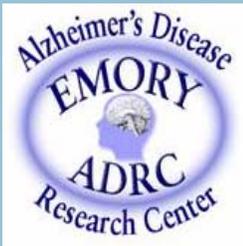
The Alzheimer's Project, HBO Documentary Films

Stream online, free of charge, at www.hbo.com/alzheimers

EMORY UNIVERSITY
SCHOOL OF
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ALZHEIMER'S
DISEASE RESEARCH
CENTER

Phone: 404.728.6950
www.med.emory.edu/adrc



Event	Date	Location
Early Memory Loss Group <i>(Co-sponsored by the Alzheimer's Association, Georgia Chapter)</i>	An 8 Week class that meets: Fridays: 10:30 – 12:00 February 5 th – March 26 th , 2010	All Classes will be held at: Wesley Woods Health Center 3 rd Floor Conference Room 1841 Clifton Rd, NE, Atlanta, GA 30329 To register for a class call Susan Peterson-Hazan at 404-728-6273 at least one week prior to the beginning of each class.
Caregiver Challenges: Everything You Want to Know About the Middle Stage of Alzheimer's disease <i>(Sponsored in part by a grant from the Wesley Woods Foundation)</i>	A 6 Week class that meets: Fridays: 10:30 – 12:00 November 6 th – December 18 th , 2009	
Late Stage Alzheimer's Disease <i>(Sponsored in part by a grant from the Wesley Woods Foundation)</i>	A 4 Week class that meets: Fridays: 10:30 – 12:00 January 8 th – 29 th , 2010	

**Upcoming Event: "Toolkit for Healthy Caregiving" Panel Discussion
November 5, 2009 at 6:30pm**

Location:
Helene Mills Senior Center
515 John Wesley Dobbs Ave

Co-sponsored by
alzheimer's association

Emory ADRC
Wesley Woods Health Center, 3rd floor
1841 Clifton Road
Atlanta, GA 30322