

BRAIN RESEARCH DISCOVERIES™

USF HEALTH BYRD ALZHEIMER'S INSTITUTE

FALL / WINTER 2012

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Welcome

At USF Health Byrd Alzheimer's Institute, our mission is simple: Prevent Alzheimer's Now.

We do not need miracles. The tools to prevent Alzheimer's disease have been developed over the last five years. All we need are the resources to perform extensive prevention studies to prove their effectiveness.

In this issue, you will learn how our staff, clinicians and researchers are transforming memory care to make a difference in the lives of Alzheimer's patients and their families. We are proud to unveil our new "Award of Excellence," a symbol of quality in Alzheimer's and dementia care that establishes a set of criteria memory care facilities must achieve to demonstrate a higher standard of care. You can also learn how the Discovery Laboratories' work combines neurobiology with engineering to develop new ways to electrically stimulate the aging brain, and you'll meet one of our neuropsychologists, working to diagnose deficits in different domains of mental function.

As we unlock the mysteries of memory loss, we learn more about the importance of PET (positron emission tomography) imaging in early diagnosis and treatment. Within our Eric Pfeiffer Imaging Center, a sophisticated PET scanner allows clinical researchers and physicians to visualize the nerve-killing Alzheimer's amyloid proteins in the brain. We now offer Amyvid™, the first and only FDA-approved diagnostic PET tracer for imaging beta amyloid plaques in the living brain.

Amyvid allows us to detect the presence or absence of amyloid plaques in our clinical evaluations of patients with cognitive impairment. So far, every patient who has scanned positive and gone to autopsy has been confirmed positive for amyloid. Given that the definition of Alzheimer's is dementia in the presence of amyloid plaques, the PET scans, so far, are conclusive. Importantly, many who are not yet demented also scan positive for amyloid, indicating an elevated risk of developing mild cognitive impairment and/or Alzheimer's. We believe the best strategy for preventing Alzheimer's will involve treating normal seniors who are amyloid positive with amyloid-lowering medications, and we will pursue this path.

I feel privileged to work alongside a clinical and research team comprised of physicians, memory care professionals, faculty, post-doctoral researchers and students working to improve the overall health and well-being of Alzheimer's patients.

On September 21, 2012 - World Alzheimer's Day - our faculty and staff posed for a group photo wearing purple hues to commemorate the 5 million Alzheimer's sufferers across the United States. I thank all of you who stand with us in the fight against Alzheimer's disease... until Alzheimer's is a memory™.

Dave Morgan, PhD
CHIEF EXECUTIVE OFFICER

Florida has twice as many Alzheimer's patients per capita as the national average, with an estimated 500,000 - or 1 in 40 - Floridians suffering from Alzheimer's.



CARMEN SCETTINO

BRAIN RESEARCH DISCOVERIES

Fall / Winter 2012

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Turning science fiction into reality.

USF research scientist, engineer and inventor Dr. Chris Frewin hopes to restore brain function with tiny, implantable devices.

By Mark Zaloudek

Dr. Chris Frewin gets excited working with tiny devices made from semiconductors that most of us have never seen, although our computers and cell phones couldn't exist without them.

But ever since he received his doctorate in electrical engineering from the University of South Florida in 2009, he's been spending much of his time with researchers at the USF Health Morsani College of Medicine in Tampa trying to figure out how these microchips could send and receive signals in people whose brain function has been impaired by head trauma or memory disorders such as Alzheimer's.

"My goal is to restore brain function not only for people with dementia, but also for people with other brain disorders or diseases, such as Parkinson's disease," the 41-year-old researcher said.

"I won't be able to ever cure any of these diseases with this type of device," he explained, "but what I can do is try to help the brain reconnect broken signals so that these people can maintain better function."

Alzheimer's disease is currently the 6th leading cause of death in the United States, and Parkinson's ranks 14th.

Brain implants were once found solely in the realm of science fiction, and they conjure up images of cyborgs taking over the world with computer microchips in their brains. The notion of mind-controlling brain implants spread beyond literature and into other areas of pop culture through films (including 1995's *Johnny Mnemonic* and 2004's *The Manchurian Candidate*) and television shows (*The X Files* and *Star Trek*).

The idea seems less far-fetched when you consider that neural implants (also known as brain implants) are already

used to block, record or stimulate signals between neurons - essentially messenger cells - in the brain. They've provided deep-brain stimulation to help Parkinson's patients for more than a decade, and more recently offer hope to sufferers of severe depression by stimulating the Vagus nerve in their neck.

Pacemakers have helped regulate heartbeats for more than 50 years and are another example of implantable biomedical devices.

Christopher Frewin, PhD

Turning science fiction into reality.

CONTINUED FROM PAGE 3

“If we can’t restore damaged areas of the brain with biology, maybe we can restore them with technology.”

Christopher Frewin, PhD

Biological and technological challenges

Frewin (pronounced “FROO-in”) knows what he wants to accomplish: to bridge damaged or dysfunctional areas of the brain to improve thought processes and motor skills. But he also knows he has some major obstacles to overcome before his dream can become reality.

First, there’s the issue of the brain, which he refers to as our most-protected organ because our bodies are masterful at keeping bacteria and other foreign agents from reaching it. The downside of that, however, is that our bodies want to reject most foreign substances in the brain – including incredibly tiny neural implants like the ones Frewin custom builds by hand that are smaller than the date on a dime.

Scientists refer to the body’s acceptance of a foreign substance as “biocompatibility.”

“If the brain recognizes this device as something that’s not

supposed to be there, then it’s going to start attacking it with helper cells inside the brain called glia – like white blood cells in the body – that are going to start surrounding the device and try to remove it. If they can’t remove it or swallow it up, they’ll start building an encapsulating area around it,” he says. Even worse would be if the body begins attacking healthy neurons surrounding the device.

Making the implants as miniature as possible not only lessens the risk of rejection, but also minimizes the traumatic injury to the skull and brain when implanting the device.

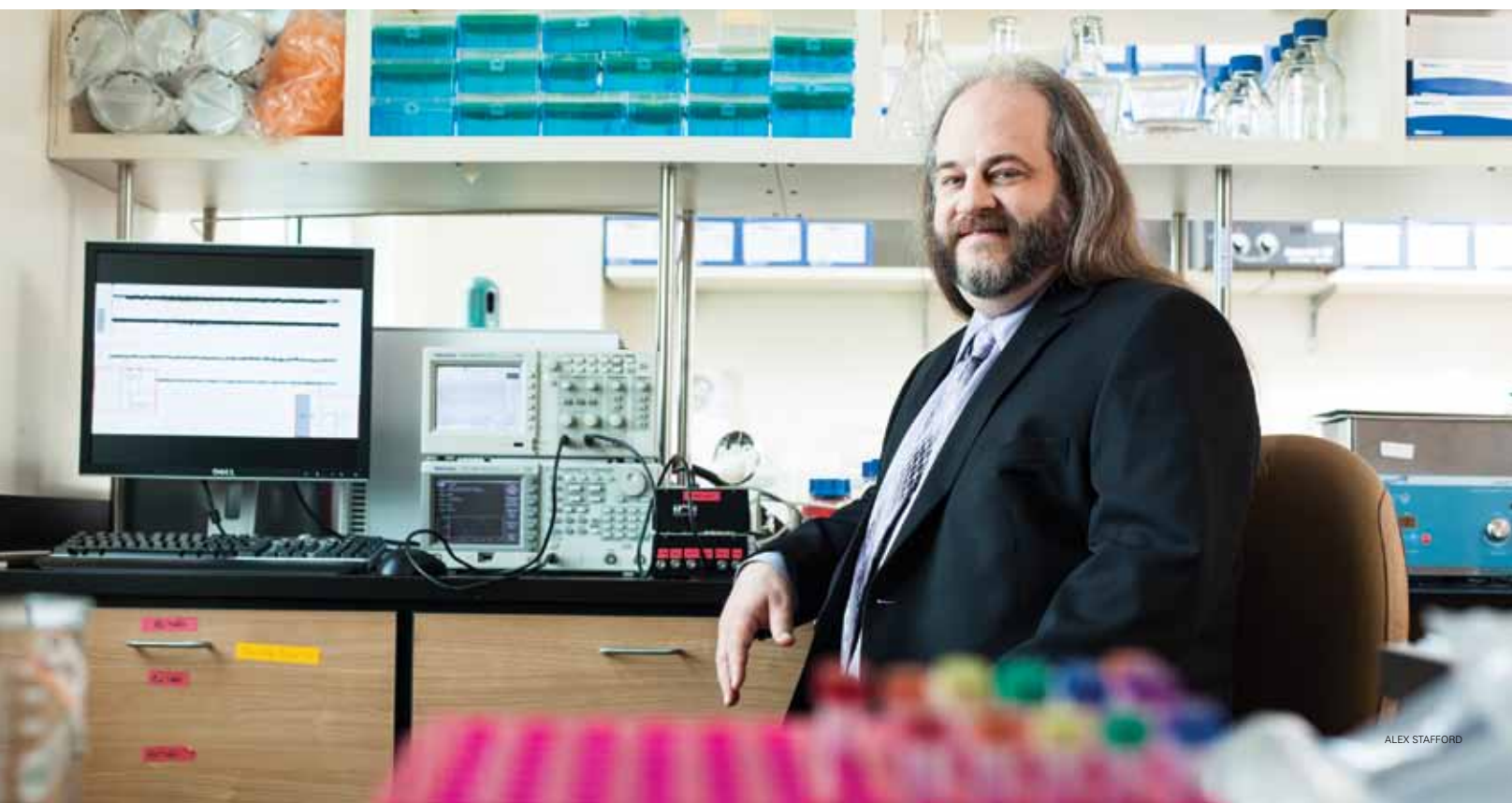
The implants themselves pose a second significant challenge. Ideally they need to operate for long periods of time so that they would not need to be replaced regularly and require repeated brain surgeries with their own inherent risks.

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Unlocking the mysteries of memory loss.

Long-range study looks for clues into who will develop Alzheimer’s, to help patients delay or halt the disease.

By Mark Zaloudek



ALEX STAFFORD



ALEX STAFFORD

A pioneering study at the University of South Florida could help doctors get a better handle on who is likely to develop Alzheimer's disease and how to treat it.

The long-range study at USF Health Byrd Alzheimer's Institute in Tampa, and more than 50 other research facilities throughout the United States and Canada, is looking at changes in the brain and elsewhere in the body for clues to how and when forgetfulness as we age accelerates into something more serious.

Byrd medical director Dr. Amanda Smith calls the Alzheimer's Disease Neuroimaging Initiative-2 (ADNI-2) "a landmark study that will shape our understanding of how the brain changes as we age and can help pinpoint the best time to intervene with medications that may delay or halt Alzheimer's disease."

Volunteers are still needed to help researchers who are looking for early indicators of future memory loss. (See "What Happens During a Clinical Trial?") The researchers are also closely monitoring others with various stages of cognitive impairment, to learn more about why it progresses more rapidly in some people than it does in others.

Jill Smith, the Institute's assistant director of clinical research who is helping to coordinate the 4½-year study at Byrd, believes the extensive data collected by scientists at 55 research institutions in the United States and Canada could shed new light on memory loss and effective treatments.

"One of the goals of research like this is to come out with a genetic test, so that adults could get tested and know years or even decades beforehand what their risk is for developing Alzheimer's disease," said Jill.

"There are two aims in research right now," she added. "Obviously we're trying to develop medications to better treat Alzheimer's. But what this research is trying to do, which is just as important, is to help diagnose Alzheimer's disease with higher efficiency in the real world, not just in specialized facilities like ours."

Alzheimer's devastating toll

As the 6th leading cause of death in the United States, Alzheimer's remains one of the most vexing diseases to the scientific and medical communities – not to mention one of the most heartbreaking illnesses for families. Of the 10 leading causes of death nationwide, it's the only one that cannot be prevented, cured or even slowed in its progression, and it currently afflicts more than 5 million Americans.

Alzheimer's disease is also the fastest-growing cause of U.S. deaths – up 65 percent between 2000 and 2008 – while the percentage of fatalities from other leading causes, such as strokes or heart disease, has been declining.

The financial toll of memory loss is overwhelming on patients and their families, as well as on taxpayers through the federally funded Medicare and Medicaid programs.

To date, doctors and patients have only limited options to counteract memory loss, with drugs such as Aricept and other cholinesterase inhibitors that can improve the function of messenger chemicals in the brain.

A key component of the ADNI-2 study, which will include more than 500 participants in North America, is to look for biological clues

in the brain, blood and spinal fluid in healthy individuals to identify precursors to memory loss.

The project, which could top \$50 million in public and private funding, is led by the National Institute on Aging at the National Institutes of Health in Washington, D.C. The NIH hopes to commit \$40 million through 2015 for the initiative. The Foundation for the National Institutes of Health anticipates an additional \$22 million in private sector support from drug companies, imaging and clinical trial management companies, and nonprofit organizations, including the Alzheimer's Association. The Canadian Institute of Health Research is providing \$1.5 million to help fund the simultaneous research at several Canadian sites.

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Above: L-R Jennifer Bogush, AS, CNMT; Jill Smith, MA; and Ashok Raj, MD, of the Byrd Institute. Left: Bogush prepares a patient for a PET scan.

New Tracer Reveals Harmful Brain Plaques.

The Byrd Alzheimer's Institute and other facilities with high-tech imaging equipment around the country have a new weapon in detecting and measuring harmful plaques in the brain associated with Alzheimer's disease and other cognitive disorders.



A new tracer called Amyvid™, administered to patients intravenously, is helping doctors and researchers assess the buildup of beta-amyloid neuritic plaques in brain tissue through PET scans.

Amyvid (Florbetapir F 18 Injection) is the first and only FDA-approved diagnostic PET (positron emission tomography) tracer for the neuritic plaques linked to cognitive decline. It is being used in the Alzheimer's Disease Neuroimaging Initiative-2 (ADNI-2) study and in several other studies at the Byrd Institute, said medical director Amanda Smith, MD.

"We're involved with several research studies that use Amyvid imaging to evaluate drug effectiveness by measuring plaque before and after treatment," she said.

"It was approved by the FDA in the spring and is also available for prescription PET scans to confirm the diagnosis."

Drug giant Eli Lilly and Co., which markets Amyvid, notes that a positive Amyvid scan does not establish a diagnosis of Alzheimer's disease or other cognitive disorders; it is best used in conjunction with other tests to assess memory disorders.

All individuals will first need to be evaluated by a physician and obtain a referral for PET imaging.

Call (813) 974-4355 to learn more.

ALEX STAFFORD

Unlocking the mysteries

CONTINUED FROM PAGE 6

New PET scanner plays critical role

The ADNI-2 study is the third phase of a widespread research project that began in 2004 under the guidance of the Alzheimer's Disease Cooperative Study. USF Health was able to join the project this year because of its recent acquisition of a high-tech PET (positron emission tomography) scanner that reveals changes in living brain tissues – a key aspect of the study.

The Byrd Institute's \$1.3 million PET scanner is the cornerstone of its \$3.5 million Center for Memory C.A.R.E. (Clinical Assessment, Research and Education) that opened a year ago, funded primarily through private donations. The PET imaging center at the Byrd Institute is accredited by the American College of Radiology (ACR). The ACR gold seal of accreditation represents the highest level of image quality and patient safety (www.acr.org). Using special tracers, the scanner is able to reveal the buildup in the brain of gooey substances known as amyloid plaques that are believed to play a critical role in various forms of dementia.

Researchers are also building a database of the volunteers' blood samples, spinal fluid and brain scans in their quest to discover so-called "biomarkers" among healthy individuals who go on to develop Alzheimer's. The biomarkers may also reveal how the disease progresses.

Dr. Smith hopes that earlier detection may give rise to more effective treatments.

"The problem right now is that some of the newer drugs have probably been tested too late in the disease process – once the damage has been done, so to speak," she said. "With the imaging technology that can see the amyloid plaques before symptoms ever appear, we can now design studies to give those drugs to people before they become

forgetful, and hopefully find a way to prevent it from happening at all."

Up to now, answers to Alzheimer's disease have been elusive, in contrast to all we know about the prevention and treatment of most other major illnesses.

"We've only learned the bulk of what we know about Alzheimer's disease in the last 10 to 20 years," Jill said. "We're just beginning to scratch the surface."

She noted that the Baby Boomer generation, dealing with aging parents as well as their own looming retirement, may become a driving force in advancing the diagnosis and treatment of memory loss.

"We know that they're going to become very demanding consumers of health care," Jill explained, "that's what research shows. They're being extremely proactive for health care issues that could affect their retirement and their golden years, and Alzheimer's disease is certainly one of them. So there's a lot of interest in the general community, not just the scientific community, to put an end to this, because at this point it's a terminal diagnosis that's very difficult for individuals and families to deal with."

Researchers remain hopeful that ADNI-2 and other studies taking place around the globe will help turn the tide on the devastating disease.

"We're looking forward to changing the way we diagnose Alzheimer's disease by being able to diagnose it earlier and with more efficiency, and starting people on medications much sooner," Jill said. "Our goal is to turn around the increasing number of Alzheimer's cases that come up every single year." ■

What Happens During a Clinical Trial?

Alzheimer's disease affects many different parts of the brain. The staff at USF Health Byrd Alzheimer's Institute includes a team of professionals – medical directors trained in neurology and geriatric psychiatry, neuropsychologists, experts in evaluation, professional social workers, and research coordinators.

During a clinical trial, participants come in for regular study visits with the Institute's research

team, along with their study partner (or a caregiver who can report on how they are doing). The visits include interviews, memory assessments, routine lab work, physical and neurological exams, and other study procedures. Participants will also receive the study medication or intervention.

The length of time for each study varies. Some are only a few months long, while others may last two to three years. When picking a study, participants should take the likely time commitment into careful consideration.

For more information or to enroll in a clinical trial, call the Institute's clinical research center at (813) 974-4355.

Clinical Trials: A process of discovery.

Despite recent news about some high-profile anti-amyloid medications failing to perform as hoped in clinical trials, the research team at USF Health Byrd Alzheimer's Institute continues on optimistically. "Although deemed unsuccessful, these research studies are never complete failures. We continue to learn enormously from them. This isn't the cure we are all hoping for, but it certainly brings us one step closer," said Jill Smith, assistant director for clinical research. "We've spent the last several years collecting data on these medications, and we've learned more about Alzheimer's disease in the process."

In the search for a cure, it becomes clear that researchers need to diversify their efforts and examine all possible avenues for treatments. "Our trials at the Institute run the gamut," said Dr. Amanda Smith, medical director. "We are studying medications to improve memory and thinking abilities, from things like nutraceuticals to intravenous

immune globulin, and potential new treatments for agitation in people with significant dementia." Resveratrol, found in the skin of red grapes and other foods, is one

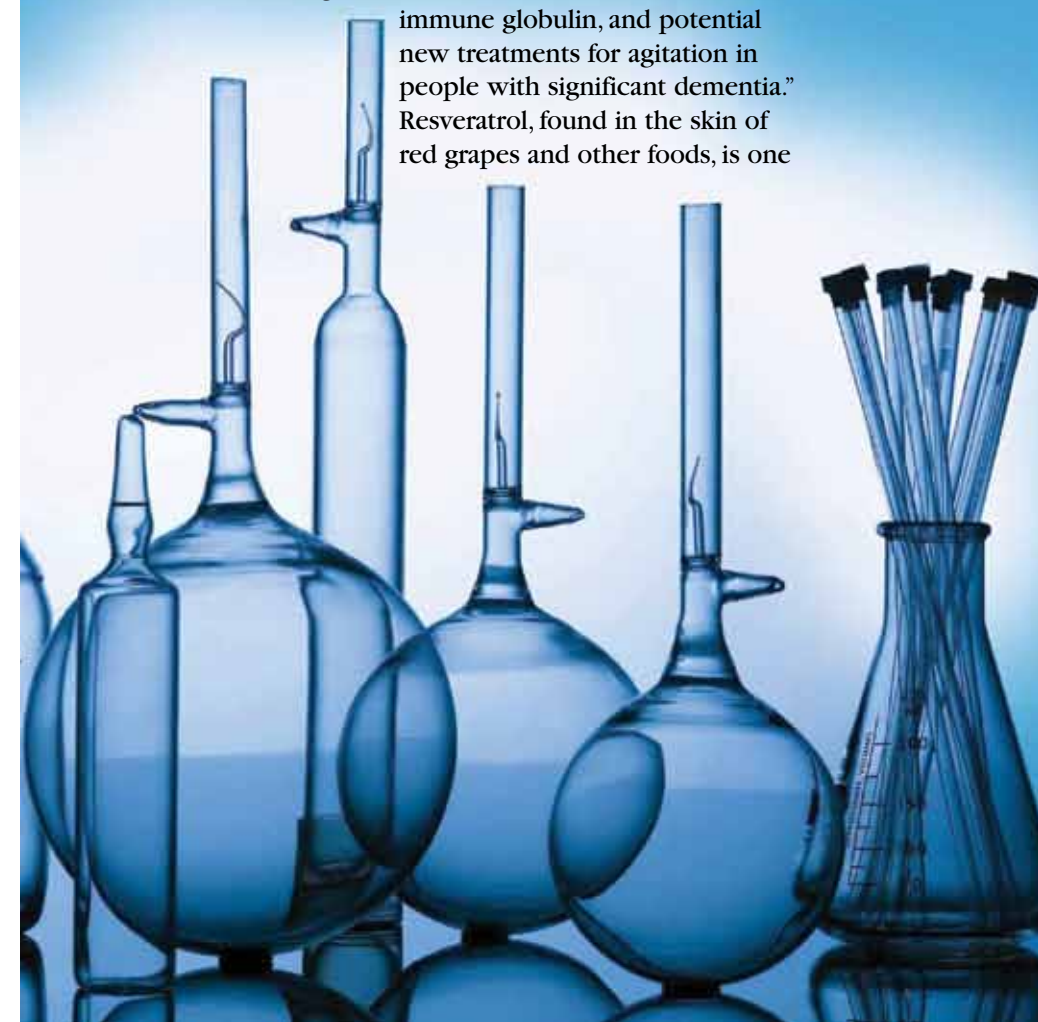
medication currently being studied as a treatment for Alzheimer's disease (see Discoveries, Spring/Summer 2012). The USF Health Byrd Alzheimer's Institute is one of 26 sites across the nation participating in that study. Additionally, the Institute continues to be involved in research efforts on vaccines against amyloid. Jill added, "USF is a university that prides itself on collaboration. We're in constant contact with scientists in our labs to help bring new treatments to the clinic. We are also involved in studies identifying concerns and needs of caregivers of patients with dementia and mild cognitive impairment." ■

Update on High Profile Treatment Trials

The summer of 2012 concluded with some big announcements regarding research in Alzheimer's treatments.

In late July, Pfizer announced their drug Bapineuzumab™, which had been studied in clinical trials for mild to moderate Alzheimer's disease, did not meet the aims of improving cognitive and physical functioning. All infusion-based studies have since been closed.

Shortly after, Eli Lilly announced their drug Solanezumab™, studied in mild to moderate Alzheimer's disease, did not meet the primary aims of the study, but did show potential in slowing the disease, so the company has decided to continue with the clinical trials. The study is not enrolling any new subjects at this time.



A “win-win-win” situation.

USF Health Byrd Alzheimer's Institute hopes its new “Award of Excellence” program will help people with memory loss get quality care by linking their families with businesses that meet higher standards.

By Mark Zaloudek

Can you recommend a good facility for Alzheimer's care?”

It's a question faculty and staff at the USF Health Byrd Alzheimer's Institute are asked routinely. While they cannot endorse a particular organization, they have developed a series of distinct criteria to help businesses and health care providers raise the bar on dementia care and equip caregivers with the necessary knowledge to select a facility that best meets the needs of their loved one.

This fall, the Byrd Institute will introduce the “Award of Excellence” to assisted living facilities and businesses that provide in-home care.

The Institute will look at staff training, building modifications, caregiver support and a host of other criteria to

That's where the “Award of Excellence” comes in. In assisted living facilities, for example, “the staff who provide direct patient care may need extensive training in understanding the disease, knowing how to prevent certain behaviors and how to deal with behaviors as they come up, and how to communicate with someone with Alzheimer's,” she said.

Long-term care facilities and home health agencies can apply for the designation based on a wide range of criteria (available at <http://alz.health.usf.edu>). The businesses must not only report what steps they've taken to achieve those goals, but also provide documentation and undergo one or more site inspections by Byrd staff to verify that the criteria have been met.

Businesses seeking the distinction will be charged \$5,000 (or \$2,500 after the first year) to verify their claim for the annual award.

The Byrd Institute also provides on-site training for a fee to help businesses update or advance their skills.

The idea of recognizing health care providers who demonstrate higher standards of Alzheimer's care arose through faculty and management discussions at Byrd as they tried to figure out how to help families who turn to them for advice.

“A caregiver is in a very emotional state when they're first dealing with placing their loved one,” Poiley said. “They know certain things that they're looking for, but we felt we'd be able to provide them with a very helpful list of standards that we know will increase the quality of care. They may look at a facility and see that it's pretty, but pretty isn't enough.”

The Byrd Institute will list the “Award of Excellence” recipients on its Web site (<http://alz.health.usf.edu>), but Poiley advised that nursing homes and home health agencies in central and southwest Florida whose names don't appear aren't necessarily inferior. Since the program is relatively new, some may not know about the designation or may choose to not participate. Some businesses have their own internal corporate training programs on dementia care.

“We can't endorse companies on our Web site, but we

“While we can't recommend a particular place, we can empower caregivers to know what to look for and to make sure that we create a set of standards for what makes a good facility.”

*Eileen Poiley, MS
Director of Education, USF Health Byrd Alzheimer's Institute*

determine whether the long-term care facilities or home health agencies can earn the designation, which can then be publicized by the businesses themselves as a badge of honor.

“We came up with standards that we feel a facility should meet to really be able to say they have the ability to provide quality care for somebody with Alzheimer's disease,” said Eileen Poiley, who helped design and implement the recognition program as the Institute's director of education.

“While we can't recommend a particular place, we can empower caregivers to know what to look for and to make sure that we create a set of standards for what makes a good facility,” she added.

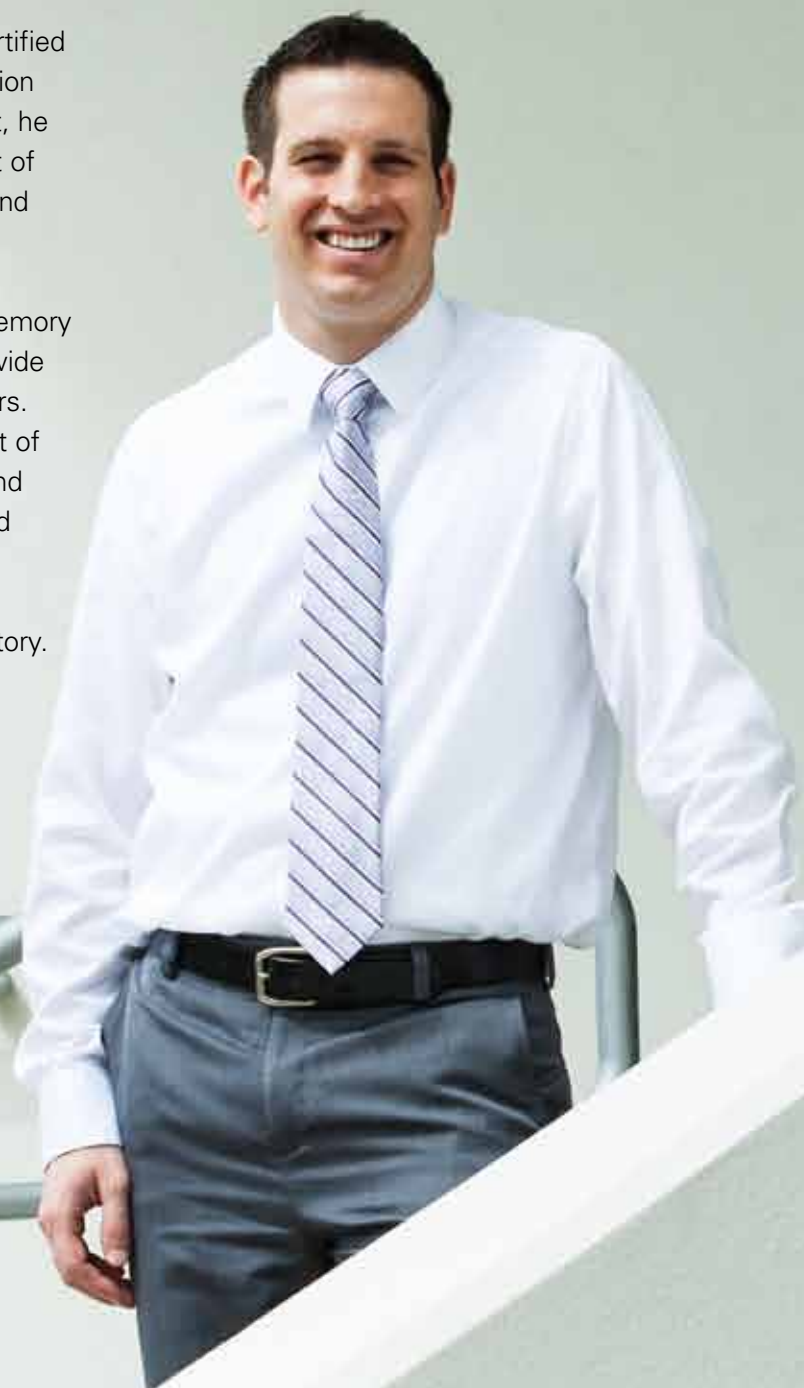
Although all long-term care facilities and home health agencies must meet certain criteria to be licensed by the state, Poiley said the state requirements don't completely reflect the overwhelming and diverse needs of dementia patients.



Q & A with Eric Rinehardt, PhD

As a clinical neuropsychologist, Dr. Eric Rinehardt says he “takes people’s brains for a test drive” to see how well they perform on tasks. The board-certified neuropsychologist at USF specializes in brain function and how it affects behavior. As a research scientist, he also hopes to advance the diagnosis and treatment of people with dementia, mild cognitive impairment and other neurodegenerative disorders.

Dr. Rinehardt is the clinical coordinator of USF’s Memory Disorders Clinic, one of 15 diagnostic clinics statewide supported by the Florida Department of Elder Affairs. He is also an assistant professor in the Department of Psychiatry and Behavioral Neurosciences at USF and works closely with its Multiple Sclerosis Center and the Byrd Alzheimer’s Institute’s C.A.R.E. Center. He mentors several undergraduate and graduate students in the Neuropsychology Research Laboratory. He received his PhD from Gannon University and joined the USF Department of Psychiatry in 2009.



Q: What exactly is a neuropsychologist and who sees one?

A: A clinical neuropsychologist specializes in the assessment of cognitive ability, including attention, memory, language and problem-solving. Typically, individuals are referred when there is known or suspected central nervous system (brain) dysfunction, to assist with differential diagnosis and evaluate the severity of cognitive impairment.

Q: What’s involved in a neuropsychological exam?

A: The objective is to essentially take the brain out for a test drive and see how one performs compared to others of similar age and education. Most tests are administered by a trained technician and are paper-and-pencil or computer based.

Q: Mild cognitive impairment (MCI) can represent the first stage of diminishing brain function apart from normal aging. What are the challenges and shortcomings of diagnosing MCI, and why is getting the diagnosis right so important?

A: Because MCI is a relatively new diagnosis, there is no consensus on its definition from a neuropsychological standpoint. Neuropsychologists must carefully balance the fine line between normal age-related memory decline and MCI secondary to the early stages of a neurodegenerative disease. When there is strong evidence of MCI, medical and psychosocial interventions may be considered to potentially delay further decline and improve quality of life.

Q: You speak to groups statewide about the importance of Florida’s Silver Alert program to help track down older adults who wander off on foot or by car, often because of confusion. What do you wish everyone knew about how to keep their loved ones safe, to avoid wandering and its sometimes tragic consequences?

A: If someone with dementia is at risk for wandering by foot or vehicle, there must be appropriate supervision and environmental adaptations. If someone with dementia is missing, call 911 immediately (there is no required time to wait) and have a predetermined search strategy in the immediate area. There are a variety of technologies which can also be helpful. See www.floridasilveralert.com for more information.

Q: What gives you hope in your profession?

A: Neuropsychological testing has the potential to detect neurodegenerative disease in its early stages. If neuropsychologists can identify disease before irreversible damage occurs to neurons, interventions may be more effective and we may get one step closer to a cure for diseases such as Alzheimer’s disease. ■

How To Give

The USF Foundation welcomes gifts of all sizes on behalf of the Institute. Outright gifts and planned gifts can benefit both the university and the donor, via potential tax benefits.

Outright gifts

Outright gifts are the simplest way to help, and immediately go to work on behalf of the university. Donors can make checks payable to the USF Foundation. The donor can designate the gift for Alzheimer's by a note in the memo line of the check or in a letter, and may designate the gift for a specific department or program.

Donations can be mailed to:
University of South Florida
ATTN: Development Department
12901 Bruce B. Downs Blvd., MDC 70
Tampa, FL 33612-4742

Donations also can be made online, using a credit or debit card. Visit the Web site at giving.usf.edu and click the **Make A Donation** link. Many corporations will match gifts made by employees, retirees or even spouses, allowing the donor to double or triple the value of their gift. It only requires the donor to request a matching gift form and send it along with the gift.

Planned giving

Planned giving involves donating assets and is usually part of a donor's estate plan. Options include simple bequests, memorial and honorary gifts, endowed gifts, charitable gift annuities and charitable remainder trusts. Such gifts usually involve legal documents and require the advice and assistance of a professional financial consultant. The USF Foundation offers more information at its Web site.

Corporate & foundation giving

Donating to USF can also benefit corporations and foundations. Through corporate giving, businesses can build partnerships, participate on USF advisory boards, and develop relationships with outstanding students who are preparing to enter the workforce. Foundations can fulfill their missions by working with USF to find projects and goals that meet or align with their funding initiatives. The USF Foundation has staff trained in coordinating these gifts and developing opportunities that help both the university and the donor organization. For more information, please contact Holly Lisle, Director of Development, at (813) 974-0890 or email her at hlisle@health.usf.edu.

DONOR PROFILE

“Loyalty donors” support Byrd’s mission year after year.

Annual pledges give donors hope that others can be spared from Alzheimer’s disease.

By Mark Zaloudek

Bob Harris of Sarasota and Lynn and Doug Parsons of Chevy Chase, Md., don’t know one another, but they share two things in common.

Both families have firsthand experience with Alzheimer’s disease, and both have pledged ongoing support to the USF Health Byrd Alzheimer’s Institute in Tampa with the hope that other families can be spared the disease’s devastating toll.

Harris and the Parsons are among the donors who have contributed to the Byrd Institute each and every year for the past several years to advance its research and support services for families.

“I hope my dollars will lead to a solution to prevent others from getting this disease,” said Harris, a retired IBM financial officer.

The Alzheimer’s Institute is especially grateful for its “loyalty donors,” because of their unwavering support through annual donations.

“Consistent giving provides support the Institute can count on to fulfill our mission to diagnose, prevent, treat and cure Alzheimer’s disease and other related disorders,” said Holly Lisle, director of development at USF Health. “We are grateful to our loyal donors who believe in our mission and continue to support it year after year.”

Harris’ wife, Dolores, succumbed to the disease at the age of 70 in 2006, just two months shy of their 50th wedding anniversary. He worries about whether the disease could eventually afflict their five grown children.

“I’d like my children to not worry about getting a disease that their mother got. And my mother also passed away from Alzheimer’s, so from what I understand, we’ve got a double whammy in our genes. I’d like them [scientists] to find the reasons for it and hopefully a cure or a way to prevent it,” he said.

As an added bonus, Harris’ annual donation is matched by his former employer.

Lynn Parsons, a Tampa native, lost her mother to Alzheimer’s in 2009 at the age of 92, after her mother’s 13-year battle with the disease.

The Maryland couple, who return to Florida each winter as “snowbirds,” have increased their annual pledge to Byrd in recent years through a family foundation, because they consider it “one of the most important charities we support.”

They hope their yearly donation will help stem the tide of hardships on families and escalating health care costs of memory disorders as more Baby Boomers reach retirement.

“There’s going to be an explosion with the Baby Boomers, so many more people will be getting it unless something’s done about it,” said Lynn Parsons. The couple, who have been married for 43 years, have two grown sons.

Harris and the Parsons also have something else in common: They’ve each toured the Byrd Institute and been impressed with its scope of services and recent innovations, including its \$1.3 million PET scanner, part of the new Center for Memory C.A.R.E.

That’s another reason Harris, a former CPA and director of accounting at IBM, feels confident about his financial support of the Institute.

“One of the things that’s important to me as a financial person is that the money I give goes directly to Alzheimer’s,” he said. “I’m concerned

about giving to a generic organization that supports research for Alzheimer’s, because I understand that there are going to be overhead expenses in collecting money that goes to somebody else. I just think that by giving directly to the Byrd Institute and USF, the money is used much more effectively.” ■



Lynn and Doug Parsons (above left) and Bob Harris (below right) support the Byrd Institute’s work to cure Alzheimer’s in honor of loved ones who have suffered with the disease, including Bob’s wife, Dolores Harris (above right).



To learn more about loyalty giving and other ways individuals and organizations can support the Byrd Institute:

Contact Holly Lisle at (813) 974-0890 or hlisle@health.usf.edu.

A “win-win-win”

CONTINUED FROM PAGE 11

can specify which ones have gone through the process and received the award. Obviously, the family still needs to go to one or more facilities and interview them,” Poiley added.

She sees the “Award of Excellence” program as a step in the right direction.

“We’re arming both the providers and the consumers with better facts and information through a program that serves both of them,” she said.

But calling it a win-win situation doesn’t go far enough for her.

“The winner is truly the Alzheimer’s patient. They’re going to get a better level of care to improve their quality of life. So the patients benefit, which makes the families happy, which works for the health care providers, so it’s a win-win-win situation,” Poiley said.

The initial reaction from health care providers has been encouraging, she added.

“The response has been overwhelming. They’re thrilled with the program and the ability to showcase what their facilities are providing – by increasing their knowledge base, their staff training and their skills – to be able to show caregivers that they’re able to provide a higher quality of care.”

And let’s not forget that it will

provide the community-at-large with valuable information when selecting a facility or home health agency to care for a loved one with Alzheimer’s disease and related dementias. ■

Turning science fiction

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A team effort

Frewin has been working for the past several years with other scientists at USF, including neurologist and lead investigator Dr. Edwin Weeber, and electrical engineering professor Dr. Stephen Sadow, and they think they may be on the right path by using brain implants made with cubic silicon carbide.

So far, the experimental implants have shown promise for biocompatibility and extended use in the brain tissues of mice.

They also hope that one day their electronic devices can send and receive signals wirelessly from the brain to a remote computer.

Frewin and his colleagues have received conditional funding of more than \$1 million for their research from the federal Defense Advanced Research

Projects Agency, a division of the U.S. Department of Defense. Financial support has also come from the National Institutes of Health and the USF Neuroscience Collaborative.

The researchers have already generated several patents in the process and hope to receive additional grants to advance their work.

If successful, Frewin says these pioneering brain implants could receive approval from the U.S. Food and Drug Administration for general use in the next 10 to 15 years, if the devices meet their scientific goals and survive more rigorous testing with laboratory mice and, eventually, clinical trials involving human volunteers.

Frewin remains optimistic. “If we can’t restore damaged areas of the brain with biology,” he said, “maybe we can restore them with technology. What we’re trying to do here is reconnect the circuitry from a good part of the brain to another good part of the brain that kind of bridges over the gap that’s broken.” ■