

# BRAIN RESEARCH DISCOVERIES™

USF HEALTH BYRD ALZHEIMER'S INSTITUTE

FALL 2011

**SPECIAL EDITION:**  
**The Center for Memory C.A.R.E.**  
Transforming Alzheimer's diagnosis,  
treatment and caregiving.

**USF**  
HEALTH

# Welcome

The USF Health Byrd Alzheimer's Institute has continued to grow both physically and fiscally through the 2010-11 year. We added four new faculty members to our staff. The reorganization of our clinical research team increased clinical trial visits by 80 percent. Our scientists converted \$1 million invested into the Discovery Research Laboratories into \$9.2 million in new research grant notifications. Institute faculty made over 100 scientific and public presentations worldwide last fiscal year.

However, the major achievement, which we introduce in this special issue of Brain Research Discoveries, was construction of the Center for Memory C.A.R.E. To our knowledge, the C.A.R.E. Center offers a broader range of services for memory-impaired patients and their families than any other facility on the planet. The Center for Memory C.A.R.E. is part of the I-C.A.R.E. concept of healthcare delivery (Individualized Clinical Assessment, Research and Education). There are three major features of the I-C.A.R.E. concept:

- Full Service. All multispecialty medical and non-medical services available
- One place. Patients park once. Services can be made available in a single visit
- Individually Tailored. One size does not fit all. Services are based on patient needs

This is what some techno-lovers call the "whole widget" approach. In healthcare, it means for a specific disease that a full spectrum of screening, clinical, social and educational services are provided in a single location and, in most cases, available on the same day.

The creation of the Center content and its design and implementation has been truly a team effort, integrating the special knowledge of Institute health professionals, scientists and consultants. Initial floor plans were developed with the USF School of Architecture and completed with Gresham Smith and partners. Friederich Watkins constructed the facility. Very special attention was given to the interior design. The spaces are intended to provide a comfortable and relaxing atmosphere as the patients and family members attend various appointments throughout the day. I would be disingenuous were I not to express the pride the institute staff feels in achieving this goal.

Finally, we all express tremendous gratitude to our many donors and friends who have given freely of their time and treasure in helping reach our ultimate goal... until Alzheimer's is a memory.

Dave Morgan, PhD  
Chief Executive Officer



CARMEN SCHETTINO

## BRAIN RESEARCH DISCOVERIES

Fall 2011

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**Board of Directors:** Mary Barnes; Johnnie Byrd Jr.; John Hehn; Karen Holbrook, PhD; Frank Morsani; Eric Pfeiffer, MD; Sherrill Tomasino.

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## ABOUT USF HEALTH

USF Health is a trusted and innovative leader in medical and health-related research and patient care. The University of South Florida ranks among the nation's top community-engaged public research universities.

**S**ome see a paradigm shift. Others are saying we're altering the DNA of medical services, or that we're revolutionizing memory care. To be sure, through the Byrd Alzheimer's Institute, we have invented a one-of-a-kind approach to memory care and the research, evaluation, treatment and prevention of Alzheimer's disease.

USF Health is transforming memory care by making it comprehensive and unifying the universe of best programs and practices in one place, where they function in a coordinated way at one time, for one purpose.

Ours is the most sophisticated effort to date to completely integrate programs and services that in other traditional health care settings are too often fragmented, time consuming, far flung, and fraught with unnecessary delay.

Our C.A.R.E. Center offers the most comprehensive approach in the world to memory care. We're improving patients' lives, easing the burdens placed on caregivers, even identifying persons at risk long before they experience

memory changes – which allows us to take preventative steps earlier.

USF, founded in 1956, is well known for this ability to touch the lives of people beyond the reach of its borders. It's a vital byproduct of our energetic pursuit of transformation through innovation.

USF is among a select 2.2 percent of all universities nationwide ranked by the Carnegie Foundation for the Advancement of Teaching as being in the top tier for research activities. The foundation singled out our long-standing commitment to community engagement.

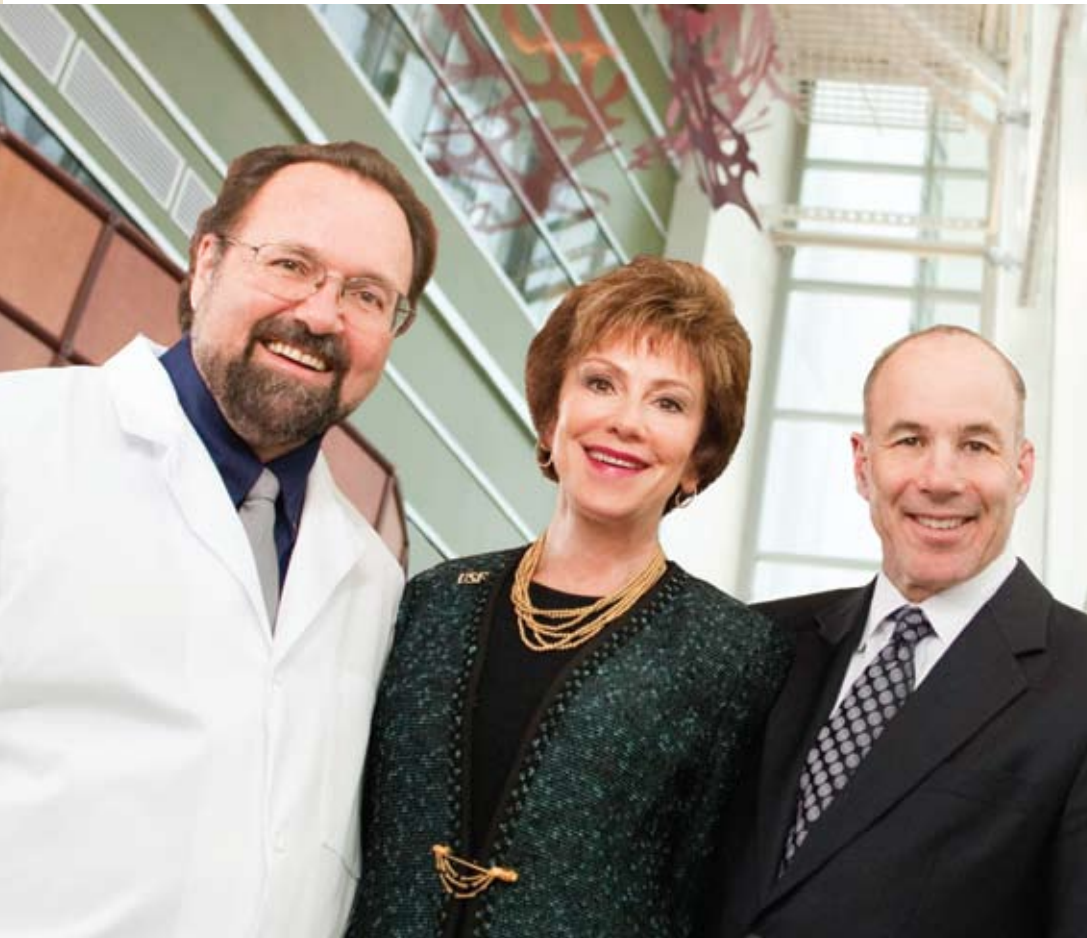
We offer 232 degree programs at the undergraduate, graduate, specialist and doctoral levels. We're known for our emphasis on providing students with opportunities to participate in research seeking solutions to local, regional and national problems.

USF Health, founded as the USF Medical Center in 1965, is evolving into an internationally recognized and acknowledged leader in discovery and innovation.

One of our primary goals is to translate each new breakthrough into improvements in public service and patient care. We are dedicated to making life better by improving health in the wider environment, in communities and for individuals.

USF Health has robust, ongoing interdisciplinary research programs in brain disease and repair (such as Alzheimer's and Parkinson's), and in stroke and aging studies, as well as in cardiovascular disease, children's health, patient safety, cell therapy, infectious diseases, and biodefense. ■

L-R: David Morgan, PhD, Chief Executive Officer, USF Health Byrd Alzheimer's Institute; Judy Genshaft, PhD, President, University of South Florida; and Stephen K. Klasko, MD, MBA, Sr. Vice President for USF Health and Dean, USF College of Medicine.



ALEX STAFFORD

## COMPREHENSIVE DIAGNOSTIC CLINIC

The integrated, interdisciplinary and comprehensive team approach is on full display in the Comprehensive Diagnostic Clinic. Patients, families and caregivers will find the facility's unified approach rests securely on pioneering medicine, accuracy and best practices.

**P**atients and families entering C.A.R.E.'s Comprehensive Diagnostic Clinic will find themselves in the expert care of multiple specialists who work collaboratively to achieve the most accurate and thorough clinical evaluation possible.

These highly trained health care professionals are experts in all of the varied aspects of brain function and in general health care. The team includes a geriatrician, psychiatrist, clinical pharmacist, clinical social worker and neuropsychologist. Each clinician examines the patient, and together they work in concert to provide a complete diagnostic assessment.



Clinic manager Karen Myers, with Byrd Institute CEO Dave Morgan, PhD, at the C.A.R.E. reception desk.







Michelle Estevez, MD,  
and patient in one of the  
C.A.R.E. Center's new  
examination rooms.

Patients and families will find a comfortable, welcoming, and convenient environment. The full diagnostic evaluation generally takes place during a single day. This allows the team of specialists to meet together to make a diagnosis and recommend a comprehensive plan for treatment and care.

The ability to see physicians in a single unified location is a pioneering yet common sense advance in the way we deliver care.

Without this centralized approach, patients often have to travel long distances and to numerous locations, making appointments with various specialists days or weeks apart. What's more, these specialists in far-flung places often have little to no contact with each other.

This is not only time consuming, inefficient and stressful, it can also prevent the unique insights that can develop from a collaborative evaluation

of brain functions and behaviors.

In some instances, when a diagnosis is ambiguous or inconclusive, a patient may need a PET scan, a procedure we can immediately schedule in the C.A.R.E. Center's Pfeiffer PET Imaging Center. This is an additional diagnostic tool unique to the Institute. We're the first Alzheimer's research center in Florida with its own PET scanner on-site.

PET scans let us see brain activity and identify structural irregularities. New research has enabled the use of PET imaging to visualize and identify the nerve-killing amyloid plaques in the brain that cause Alzheimer's, years before symptoms such as memory loss appear. Having the scanner on-site provides another level of convenience for our patients.

Early diagnosis is a critical factor in the treatment of memory loss or Alzheimer's. A primary goal of the diagnostic clinic is to identify neurode-

generative diseases in patients before the symptoms become debilitating.

Early diagnosis is also crucial to gaining maximum benefit from available treatments and helping a patient remain independent and functional for as long as possible. Decisions about care, transportation and living options, as well as financial and legal matters, are also easier to plan for if a patient is diagnosed in the early stages of the disease.

Finally, another important function of the diagnostic clinic is identifying patients who may benefit from ongoing clinical research projects.

Participation in clinical studies at the Byrd Institute can provide an opportunity to accelerate and advance medical research that is beneficial to patients and those at risk of developing Alzheimer's in the future. ■



Byrd Institute Medical Director Amanda G. Smith, MD, and CEO David Morgan, PhD, with Florida's first PET scanner dedicated to Alzheimer's disease.

## PFEIFFER PET IMAGING CENTER

Among the unique features of the C.A.R.E. Center none is perhaps of greater potential importance than our PET imaging facility. Our advanced imaging technology is much more than a critical research tool. We anticipate using the PET scanner to revolutionize early detection and treatment of the disease.

**T**he Byrd Alzheimer's Center is the first Alzheimer's center in Florida to have its own PET scanner. This remarkable bit of technology is what the C.A.R.E. Center is all about – building a research bridge to the future that also directly benefits people right here, right now.

This is good news for our patients, our C.A.R.E. programs, the university's scientific research community, and the hundreds of thousands of people who are at risk of developing Alzheimer's.

New research has enabled us to use positron emission tomography (PET) imaging to visualize nerve-killing Alzheimer's amyloid proteins in the brain – often years before symptoms such as memory loss begin to appear!

Not only can a PET scan be used to positively diagnose dementia without requiring the testing of brain tissue samples, PET scans also enable us to determine if newly developed drugs designed to prevent the onset of the disease are hitting their targets.

This means a person who fears developing the disease, perhaps because a family member has Alzheimer's, can find out if there is indeed a risk to their own health and seek appropriate treatment.



Clinical faculty member Ashok Raj, MD, and Amanda Smith, MD in the PET control room.

Amyloid proteins build up in the brain much as cholesterol collects in arteries, and the buildup can begin a decade before symptoms of the disease appear. People typically wait until symptoms emerge before seeking a diagnosis. But by then they may already have suffered significant neuron and synapse loss.

Just as a colonoscopy permits early detection and treatment of colon cancer, a PET scan of the brain permits early detection and treatment of dementia. Medications are proving successful in slowing the progression of the disease.

At present there are more than 60 clinical trials underway testing such medications on

humans, and more than 1,000 compounds have already been found to work on mice. While it is easier today to block accumulations than to remove deposits of amyloids in the brain, new clinical trials are set to begin soon that focus on reducing the deposits.

PET scan technology is drawing us closer to the day when the prevention of Alzheimer's is a reality. We believe we are only years away from realizing this accomplishment. And the C.A.R.E. Center's neuroimaging facility, named after Dr. Eric Pfeiffer, founder of the Suncoast Gerontology Center, stands as a beacon for the innovative research that will get us there. ■



## FUNCTIONAL ASSESSMENTS FACILITY



We've created a one-of-a-kind environment to evaluate and safely simulate daily activities – from routine household tasks to driving a car. Measuring the ability to function under realistic conditions is key to correctly determining the services patients need.

Using state-of-the-art tools, clinicians assess patients' abilities while they perform a variety of daily activities and routines. This assessment helps us to form a complete picture of strengths and challenges and plan a comprehensive treatment and care program.

The Functional Assessments Facility is another example of the C.A.R.E. Center's integrated, multidisciplinary approach. Designed to resemble a home-like setting, this one-of-a-kind facility is ideally suited to assessing a patient's abilities to perform the routine activities of daily life.

Specially trained physical and occupational therapists guide the patient through a fully functional micro-apartment with a kitchen, bathroom, bedroom, steps, and laundry facilities. This gives us the opportunity to identify any supportive services or assistance an individual may need with eating, bathing, grooming, dressing, or using the toilet.

*continued on page 15*



Patients are also guided through an assessment that measures coordination, gait, physical dexterity, balance, and the ability to lift and reach.

Faculty and staff from USF's School of Physical Therapy work with patients in the Falls Prevention Screening Center. Injuries from falls are a common occurrence in elderly patients.

Coordination difficulties, confusion, muscle weakness, problems with

balance and vision, and environmental hazards can create dangerous conditions leading to injuries, loss of quality of life, shortened life expectancy, and an increase in the expense of patient care.

To help reduce the occurrence of injury, caregivers and family members will consult with specialists and receive recommendations on appropriate preventive measures and therapeutic and mobility aids that can minimize risks.

Our assessments help determine if a walker, cane, or scooter is the more appropriate mobility aid. When standing or sitting is a difficulty, we may recommend bathroom safety rails or lift chairs.

These evaluations (which should be periodically repeated) are integral to the full-spectrum diagnostic and treatment plans developed for use by staff, primary care physicians, caregivers and family members. ■





## DRIVING SIMULATOR

We can help families and individuals through the difficult period when a person learns through functional assessments that it's time to transition from being driver to passenger.

**B**eing handed the keys to a car was an important right of passage for members of the Baby Boom generation. Owning a car was an expression of personal freedom.

Today, that passage is being reversed as more and more Boomers develop Alzheimer's disease and suffer other forms of memory loss and the weakening of other cognitive functions.

There will, of course, come an inevitable time when each of us must hand over our keys. As we age, our working memory regresses, as does our decision-making ability under pressure, confidence driving at high speeds and the ability to see at night.

When is it time for a person to stop driving and become a passenger?

The C.A.R.E. Center can help answer this question and quiet any doubts.

Our Functional Assessment Facility Driving Simulator is a cutting-edge system and an invaluable tool for safely measuring an Alzheimer's patient's visual acuity, reaction times, depth perception, sign recognition, and decision-making skills.

The symptoms of Alzheimer's can vary greatly from person to person. Some early stage Alzheimer's patients may be able to safely drive for a limited time. Others become a serious safety risk and must stop immediately.

Memory loss, disorientation, changes in vision and perception, and decreased coordination can cause drivers to forget driving rules,

misjudge distances, get lost, and delay reaction times. It becomes difficult to navigate, make fast-paced decisions and execute complex maneuvers.

Drivers with advanced Alzheimer's are at particular risk of accidents and injury. They are also apt to try to compensate for their declining driving skills by driving too slowly, creating a safety hazard.

The Center's simulator recreates real-world driving conditions. It features a 180-degree virtual field of view. A patient sits at controls the same as when operating an actual car. Drivers are evaluated on their behavior and competence in safely and proficiently driving through traffic and navigating roads.

The resulting objective evaluation can be critical in persuading a reluctant older driver to give up driving privileges. Being able to show a driver and the family the results of an evaluation can often make a difference.

If a person is deemed an unsafe driver, a comprehensive plan to transition her or him to a life without driving is developed through the integrated efforts of caregivers, family members, C.A.R.E. Center staff, and when needed, community social services. ■





## CAREGIVER EDUCATION RESOURCE

ALEX STAFFORD

Helping you locate the most useful and reliable sources of information available on dementia and care giving, from home care options to legal issues – that's the goal of our Caregiver Education Resource and the knowledgeable staff who wait to guide you throughout your caregiving journey.

Imagine having access to an encyclopedic online library and staff at a top-tier research university dedicated to providing you with the best available information on a single topic – caring for a person with dementia or Alzheimer's.

Now imagine the staff and volunteers assisting you in obtaining information that is tailored to developing the type of care best suited to a specific patient's abilities, needs and preferences.

Add to this expert help, additional guidance on how to secure the services of reputable and licensed care providers, options on adult day-care, home health care and assisted living and nursing home providers.

Hard to believe you might ever gain access to such a resource? Not any more. The Caregiver Education Resource, an integral component in the

Byrd Institute's C.A.R.E. Center, offers all this and more.

Providing caregivers with the support they need has always been at the core of the Institute's mission. But with C.A.R.E. we've set a new standard.

Caring for a person with Alzheimer's disease can be a long journey is often stressful and overwhelming for the caregiver. Without adequate support, information, and coping skills, it can be a daunting task to manage a patient's needs and care.

This resource is designed to support and guide caregivers and family members through the unique problems and behavioral challenges associated with Alzheimer's. In addition to books, magazines, videos, and informational pamphlets, caregivers have access to the Internet and the staff's expertise.

There are computers for visitors to

search a specialized database of caregiver resources that may be printed out, as well as to search for practical information addressing every aspect of Alzheimer's care and caregiver concerns.

The Caregiver Education Resource will prove vital to persons at all stages of the care-giving continuum. Topics include driving and dementia, how to prevent or manage difficult behaviors, communication strategies, and home safety. Also, in-depth information on the various types of dementia is available.

Whether you're a family member or a professional caregiver, we can help you learn how to deal with everything from stress to communication and end-of-life care in a comfortable setting during your visit. ■



Jill Ardila, MA, Assistant Director for Clinical Research, discusses clinical research trial participation.

ALEX STAFFORD

## PARTNERSHIP IN RESEARCH

A special C.A.R.E. Center space is dedicated for families and caregivers to learn about clinical research. The Byrd Institute is a leader in groundbreaking research into Alzheimer's and memory care, and invites participation in research projects on a continuing basis.

**W**e all share the ardent hope that in the very near future not one more person will fall to the ravages of a disease that can rob us of memories.

Nowhere does this hope burn more brightly than right here, in this one place.

Soon we will be able to say, "Alzheimer's can be prevented." But to achieve success requires that we each play our role: patient, caregiver, physician, donor, researcher and research participant.

Patient and family participation in research is vital.

We welcome patients and families who seek the benefit and security of a long-term relationship with one of the nation's top research institutes at one of the best research universities in the world – the USF Health Byrd Alzheimer's Institute.

Family members and patients who participate in research studies get our commitment to share information on our progress and our results. We'll also keep you informed of opportunities to participate in new research.

Opportunities to participate in research studies are varied. We carry out clinical trials that focus on testing new

medications that can slow the progress of disease. We are also leading initiatives to identify biomarkers for Alzheimer's. In addition, our studies are advancing and developing up-to-date and effective strategies for caregivers.

We have dedicated an area of the C.A.R.E. Center and staffed it specifically for educating you on clinical research. Here, you can learn what research is, what projects are currently being conducted, and which are appropriate for you.

It's your opportunity to ask questions and to examine such things as informed consent forms and brochures, with no pressure to join a study. Our goal is to educate.

The world of research is very fast-paced. New studies are starting all the time. So we encourage you to stop by our Partnership in Research area often. Whether the diagnosis is Alzheimer's disease or mild cognitive impairment, there may be a research effort underway in which you'll be interested.

When you visit, consider registering in our research database. ■



## DEVELOPMENT AND NAMING OPPORTUNITIES

Community commitments of support as bold as the ambition and vision of the USF Health Byrd Alzheimer's Institute's C.A.R.E. Center create an unstoppable partnership that's sure to help us achieve our fullest potential.



Naming opportunities you may wish to consider include the following:

- Comprehensive Diagnostic Clinic exam rooms
- Caregiver Education Resource
- Patient Great Room, The Bistro and Media Rooms
- Partnership in Research
- Community Classroom
- Children's Activity Area
- Functional Assessments Facility: Apartment, Driving Simulator, Falls Prevention

**H**ope is on the horizon in the fight against Alzheimer's, and it's starting right here at the USF Health Byrd Alzheimer's Institute with the Center for Memory C.A.R.E. We believe it is possible to stop the epidemic of Alzheimer's disease before the end of this decade, and we invite you to join us.

As we blaze a new trail into the future of Alzheimer's prevention and care, it is important to honor those individuals who, years ago, made this journey possible with their commitment and vision in providing support.

Many thanks to David and Ann Yenkinson, Martha Politz, Harry and Mary Goldsmith, Louis and Mary F. Fleming, and Frank and Carol Morsani, whose gifts helped make the Center for Memory C.A.R.E. possible.

We are equally grateful to our newest visionaries, Francine Shebell and Mike and Arlene Lia for their named areas in the Comprehensive Diagnostic area of the C.A.R.E. Center.

You too have the opportunity to play a major role in the Institute's efforts to transform the traditional approach to research, treatment and prevention of Alzheimer's and other dementias.

With continued community commitments that match the Institute's own bold and comprehensive plans, together we will create an unstoppable partnership.

For more information, please contact:

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## HOW TO FIND US

(AND WHAT TO EXPECT ONCE YOU DO)

The staff of the Byrd Alzheimer's Institute  
looks forward to your visit.

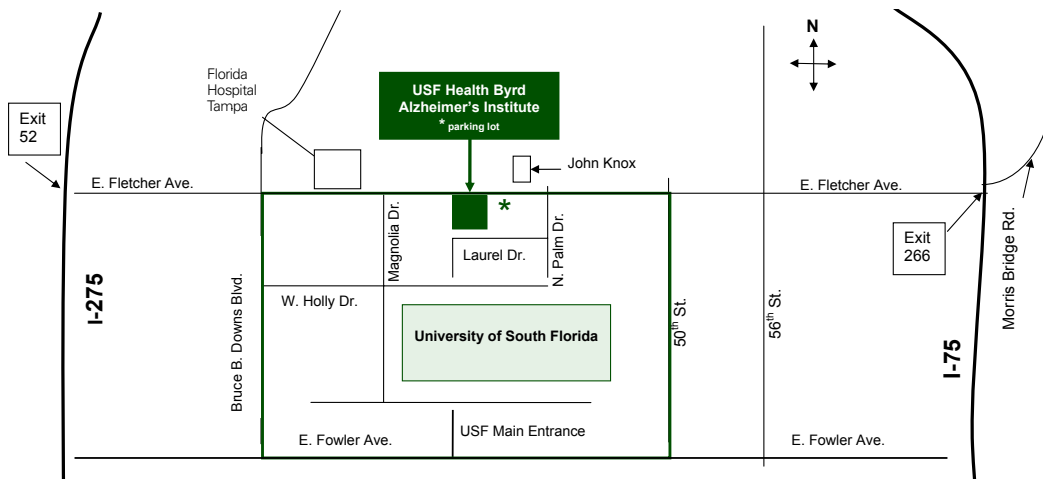
**W**e're easy to find, with easy access. Our seven story state-of-the-art building is located on the edge of the University of South Florida's beautiful main campus in Tampa, just off a major thoroughfare, East Fletcher Avenue.

You can reach us directly from both I-75 (exit 266) and I-275 (exit 52). We're also an easy drive from Tampa International Airport! Follow signs for I-275 north and then take the Fletcher Avenue exit.

Our arrival and departure entrance is covered to protect you from the weather. We provide campus parking passes just inside the front door. Parking, of course, is free.

Once inside, you'll find that we've designed our building and programs with you very much in mind, providing a secure and welcoming environment. We want you to feel right at home from the very start. We'll help you find your way around.

We're quite proud of our family-focused facility. You'll find a comfortable great room, a delightful children's play area, well-designed evaluation rooms, and



### Parking:

The USF Health Byrd Alzheimer's Institute is a seven-story white building with a glass front. Free parking is available in the patient/visitor parking lot in front of the building. Before parking, please drive to the front door to get a parking pass. Patients can be dropped off when you pick up your parking pass.

peaceful areas in which to eat and talk. That's in addition to the on-site library and many other amenities.

To make an appointment for a memory care evaluation, call (813) 974-4355.

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Clinic (813) 974-4355  
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