The Shiley-Marcos Alzheimer’s Disease Research Center (ADRC) has a wide array of research studies available to eligible persons with and without memory concerns. Our researchers are investigating ways to better detect, diagnose and treat Alzheimer’s disease and related dementias using a wide array of tools and technology. Interested persons will be assessed with regard to their cognitive status, medical history, and willingness to undergo a variety of research procedures in order to find the study that is the best possible match. There is no charge to participate in any of our research studies.

**ADRC LONGITUDINAL STUDY**

This ongoing research study annually follows persons with and without memory problems to gain a greater understanding of normal aging as it compares to dementia. Goals of this study include increased diagnostic accuracy of various forms of dementia and better understanding of the clinical symptoms and progression of various dementias and their ultimate effects on brain pathology.

**What is involved?**

- An annual physical and neurologic exam
- Blood draw
- Pencil and paper tests designed to assess your memory and thinking abilities
- Interview with study partner
- Consultation with a social worker/dementia care specialist if requested
- Brain autopsy at the time of death

**CLINICAL DRUG TRIALS**

Numerous studies are underway to test new medications designed to improve thinking skills and daily functioning, slow the rate of decline, or delay the onset of Alzheimer’s disease. Each study drug or intervention is unique and therefore varies with regard to the study procedures required, the total number of visits required, and the chances of getting a placebo vs. active drug. Most studies include the following procedures:

**What is involved?**

- Brief physical exams
- Memory testing
- Interview with study partner
- EKGs
- Blood draw
- Imaging may be involved (MRI and/or PET)
- Taking an experimental medication
Dr. Douglas Galasko and colleagues at the ADRC are recruiting research subjects with and without memory problems for biomarker studies to understand brain changes in relation to aging and the emergence of memory problems such as Alzheimer’s. We are studying 3 types of biomarkers: cerebrospinal fluid (CSF), brain structure via MRI, and amyloid imaging of the brain.

**1. MARKERS IN CEREBROSPINAL FLUID (CSF) AND BLOOD**

Dr. Galasko and colleagues at UCSD are conducting research by analyzing proteins in the CSF and blood in Alzheimer’s and other disorders and in healthy aging. These studies may improve the accuracy of diagnosis and help to gauge responses to treatment.

**What is involved?**

- A lumbar puncture (‘spinal tap’) to withdraw CSF from the lower back
- A blood draw

**What is a lumbar puncture?**

- A routine procedure to obtain CSF, the fluid that surrounds the brain and spinal cord
- A Neurologist injects local anesthetic (like Novocaine) under the skin in the lower back, then inserts a thin needle into the space that contains the CSF. This is below the level where the spinal cord ends, so there is no danger to the cord.
- About 1-2 tablespoons of CSF are removed. The body replaces this in about 2-3 hours.
- The procedure takes about 20-30 minutes

**2. AMYLOID IMAGING USING A PET SCAN**

Drs. Galasko, Salmon, Rafii and colleagues are conducting research to measure amyloid plaques in the brain using a PET scan. Amyloid plaques are one of the hallmarks of the pathology of Alzheimer’s disease.

**What is involved?**

- A small amount of a radioactive chemical (‘tracer’) is injected into a vein in the arm
- About 20 minutes later, a scan of the brain is taken. This involves lying still in a CAT scanner for about 10 minutes.

**3. MRI RESEARCH STUDIES**

Dr. James Brewer and colleagues are conducting research to measure the size of different regions in the brain, and the strength of connections between these areas. This research uses advanced ways of analyzing MRI signals.

**What is involved?**

- An MRI is obtained using a few additional magnetic settings (imaging sequences) than during a regular clinical MRI.
- This requires lying still in an MRI scanner for about 30 minutes.