

**M Northwestern** Medicine®  
Feinberg School of Medicine

Frances Evelyn Feinberg Clinical  
Neuroscience Research Institute

Mesulam Center for Cognitive  
Neurology and Alzheimer's Disease



## MESULAM CENTER FOR COGNITIVE NEUROLOGY AND ALZHEIMER'S DISEASE

Established in 1994, the Mesulam Center for Cognitive Neurology and Alzheimer's Disease within the Frances Evelyn Feinberg Clinical Neuroscience Research Institute is driven by two interrelated missions. Our first mission is to care for patients with neurological diseases that undermine memory, language and behavior. The second is to explore the biological foundations of these diseases and to clarify the principles that link brain circuits to mental functions.

Our center, led by internationally recognized clinician and scientist Marsel Mesulam, MD, has the coveted status of being officially recognized and supported by both the National Institutes of Health (NIH) and the State of Illinois. During a competitive review of our center by the NIH, we received the highest possible rating from a national panel of peer reviewers. The Mesulam Center represents more than 50 core and affiliated faculty members from 14 departments on the Chicago and Evanston campuses of Northwestern University. Through our leadership and daily efforts, we have become known for superb clinical diagnosis, care, and supportive services.

Faculty of the Mesulam Center have authored scientific publications, which are among the most frequently cited in the world literature. Our Mesulam Center faculty members serve in leadership positions in state, national, and international organizations in the fields of Alzheimer's disease, primary progressive aphasia, frontotemporal dementia, and related disorders. Scientists affiliated with the Mesulam Center are at the cutting-edge of research on the causes and treatments of Alzheimer's disease and

related dementias. We are a leading academic center for cellular and molecular studies of Alzheimer's disease. Our researchers have made pivotal discoveries related to tau and amyloid, the two major proteins of Alzheimer's disease. We ensure that our patients become the beneficiaries of all related advances.

Below is a sample of the fundamental questions being addressed by the clinicians and researchers affiliated with our world-class center.

- How does Alzheimer's disease start?
- How much forgetfulness is part of aging, and when does it become a sign of disease?
- What are the secrets of successful brain aging?
- Why do some diseases impair memory while others impair word-finding, behavior, or visuospatial skills?
- How do the 20 billion nerve cells of the human brain transform daily experiences into memories and thoughts into words?
- What causes neurodegenerative diseases, what are their genetic implications, and how can they be treated?
- What are the relationships of Alzheimer's disease (AD) to primary progressive aphasia, frontotemporal dementia, corticobasal degeneration (CBD), Parkinson's disease (PD), Lewy body dementia (LBD), motor neuron disease (MND), and progressive supranuclear palsy (PSP)?



“Our Center offers a unique multidisciplinary synthesis of patient care, training, and research in an area of immense importance for healthcare and systems neurobiology.”

Marsel Mesulam, MD, director of the Mesulam Center and Ruth Dunbar Davee Professor in Neuroscience

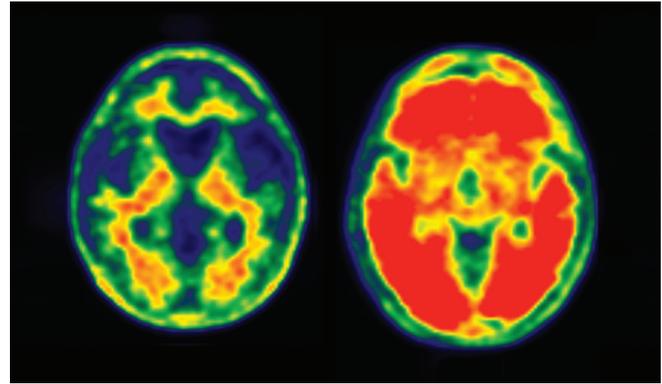


## Neurobehavior and Memory Clinic

Staffed by neurologists, psychiatrists, geriatricians, neuropsychologists, social workers, and speech therapists, our Neurobehavior and Memory Clinic offers the latest advances in early detection and comprehensive treatments for Alzheimer's disease, primary progressive aphasia, frontotemporal dementia, and numerous other brain diseases that undermine mental functions and complex behaviors. Precise diagnosis is essential for discovering reversible causes, for addressing contributing factors such as sleep disturbances or depression, prescribing proper medication, facilitating targeted education, initiating psychosocial assistance, and providing access to suitable trials with experimental drugs.

## Personalized Life Enrichment Programs

Dementias impact the entire family. They also come in bewildering varieties, each with a different profile of spared and impaired functions. The Mesulam Center has developed personalized, non-pharmacologic interventions that have received national media coverage and are being emulated around the country. Our Buddy Program pairs medical students with patients for reciprocal companionship and education; the Memory Ensemble, in collaboration with the Lookingglass Theater, uses improvisational approaches to address forgetfulness; and the Care Pathway Program uses quantitative assessments of strengths and weaknesses to recommend a menu of interventions aimed at improving quality of life for patients and families.



## SuperAging Project and Prevention of Alzheimer's Disease

The emphasis on Alzheimer's disease gives aging a bad reputation by triggering the understandable fear that all aging may eventually lead to dementia. The groundbreaking Mesulam Center SuperAging Program focuses on persons above the age of 80 who have exceptional preservation of memory function. Quantitative experiments with computerized brain imaging methods have shown that these persons are also protected from age-related brain shrinkage. The goal now is to identify the genetic and lifestyle factors that promote SuperAging. These factors may have important implications for preventing age-related memory decline and Alzheimer's disease.

## Primary Progressive Aphasia and the Biology of Language

In contrast to typical Alzheimer's disease where memory loss is a major feature, primary progressive aphasia or PPA interferes with the ability to find, use, spell, and understand words. The left side of the human brain is dominant for language function. Brain damage in PPA starts on the left side, leaving the right side intact for many years. One therapeutic approach being explored at the Mesulam Center is whether stimulation of the right hemisphere can induce neuroplasticity and allow the right hemisphere to take over some of the lost language functions. The Mesulam Center is a national referral center for PPA, a disease first identified by Dr. Mesulam. Longitudinal research projects funded by the NIH involve the participation of patients and families from 32 states across the nation. We initiated an innovative internet-based speech therapy program that can be joined by patients in their homes wherever they live in the United States. The PPA research program has led to entirely new insights into the biology of language functions, including the neural circuitry that enables word finding and comprehension.



## Training and Education

The Mesulam Center provides accredited training programs in Neurology, Psychiatry, Neuroscience, Neuropsychology, and Social Work. These programs allow us to train the next generation of clinicians and researchers in a unique multidisciplinary setting.

## A Call for Partnership

At the Mesulam Center for Cognitive Neurology and Alzheimer's Disease, we recognize that our contributions to cognitive care, research, and education have been strengthened by donors who have entrusted us with their philanthropic support. We invite our loyal and enlightened friends to join us in ensuring the continued success of the Mesulam Center and enabling us to launch novel initiatives through gifts of outright support and endowment.

Through Northwestern Medicine, we intend to create a national epicenter for healthcare, education, research, community service, and advocacy.

## Northwestern Medicine

Northwestern Memorial HealthCare and Northwestern University Feinberg School of Medicine are seeking to impact the health of humankind through Northwestern Medicine. We aspire to be the destination of choice for people seeking quality healthcare; for those who provide, support, and advance that care through leading-edge treatments and breakthrough discoveries; and for people who share our passion for educating future physicians and scientists. Our commitment to transform healthcare and to be among the nation's top academic medical centers will be accomplished through innovation and excellence. The Mesulam Center for Cognitive Neurology and Alzheimer's Disease is an integral part of our Frances Evelyn Feinberg Clinical Neuroscience Research Institute. The Institute empowers creative scientists and clinicians to transform deep and rigorous understanding of disease mechanisms into new preventive, diagnostic, and therapeutic modalities for use in diseases of the nervous system. The innovative clinical, research, and training programs led by the Mesulam Center have and will continue to usher in clinical advances that benefit patients and their families locally, nationally, and across the globe.