Two rotations are available in Cognitive & Behavioral Neurology and include:

- **Memory Disorders Clinical Rotation**
- **Research Rotations in the following clinical areas:**
  - Development & Developmental Disorders
  - Aging, Dementia & Stroke
  - Cognitive Neurology: Neurophysiology & Neuroimaging

Goals and objectives for these rotations are discussed below, and recommended reading/study materials are provided.

### Memory Disorder Clinical Rotation
**PGY 3 & 4 only**

Residents rotating in the Memory Disorders Clinical Rotation will participate in the comprehensive Alzheimer’s disease and Memory Disorders Regional Clinical Program at the LSU Health Sciences Center-New Orleans. This program provides expert care in the area of aging and dementia that includes early diagnosis and treatment of individuals with memory complaints and follow-up during disease progression.

In addition to providing such care, the program provides a unique and intensive setting in which to train Louisiana physicians in the diagnosis and treatment of dementia. This program is designed to facilitate the development of a cutting-edge, Louisiana-based research program specific to all aspects of development, aging, and dementia. This rotation is designed as a one or two month rotation.

**Goals & Objectives:**

**Medical Knowledge:**

1. Residents will learn the anatomy and neuropsychology of learning and memory
2. residents will learn the neurochemistry of memory
3. residents will understand the definition of degenerative dementia and subtypes:
   a. Primarily Cortical Alzheimer’s Disease (AD)
      Frontotemporal Dementia (FTD)
   b. Primarily Subcortical Parkinson’s Disease (PD), Huntington’s Disease
   c. Combination/Mixed Diffuse Lewy Body Disease (LBD)
      Corticalbasalganglionic degeneration (CBD)
4. residents will learn about other types of dementia:
   a. Vascular Dementia Multi-Infarct, Lacunar, Binswangers
   b. Alcoholic Dementia Wernickes-Korsakoff, CNS effects
   c. Infectious/Inflammatory Types, Mass Lesions, Trauma, Multiple Sclerosis
5. Residents will understand the difference between delirium, dementia, depression
6. Residents will learn about Sleep Disorders associated with dementia subtypes
7. Residents will become familiar with the neuropathology of AD, PD, FTD, LBD, CBD
8. Residents will study the neurogenetics of degenerative dementia (AD, FTD)
9. Residents will understand the work-up and will review neuropsychological and neuroimaging studies (MRI, PET, SPECT)

Patient Care:
1. Residents should be able to gather the essential history and obtain accurate information on patients with a memory disorder
2. Residents will learn how to perform an expanded mental status examination
3. Residents will learn about neuropsychological testing
4. Residents should be able to detect key aspects of the neurological exam for patients with a cognitive and behavioral disorder
5. Residents should be able to formulate a differential diagnosis

Interpersonal & Communication Skills:
1. Demonstrate effective communication with other physician or healthcare providers with regards to patient’s current or change in neurologic status, anticipated problem, therapeutic regimen and diagnostic tests to be reviewed
2. Provide patients and their families explanations of neurological disorders and treatment that is geared to their educational level, as well as respecting the patient’s cultural, ethnic, religious and economic backgrounds

Practice Based Learning
1. Residents should research clinical questions regarding their patient’s health problems using information technology
2. Residents should be able to apply clinical literature to their delivery of care

Professionalism
1. Residents will interact responsibly with the patient and their family
2. Residents will interact responsibly with others involved in the patient’s care

System Based Practice
1. Residents will identify the family and community support available for improved outcome of their patient
2. Resident will facilitate communication between the different healthcare providers to optimize the care given to the patient
3. Residents will make referrals to other consultants such as psychiatry, sleep medicine, internal medicine, social worker when appropriate.

Residents should have completed the web-based Memory Disorder curriculum during or prior to starting this rotation. Residents should read the following: R.L. Strub & B.W. Black. The Mental Status Examination in Neurology. Residents will receive additional teaching materials the first day of the rotation.

This rotation will be a one month rotation with Dr. Anne L. Foundas and faculty in Cognitive & Behavioral Neurology, Brain & Behavior Program.
The LSU Brain & Behavior research program is designed to study human communication throughout the life cycle (children & adults) and in specific disease states (autism, stuttering, stroke, Alzheimer's disease). Our approach to understanding the brain and behavior includes the use of state-of-the-art high-field MRI-brain imaging methodologies integrated with a variety of behavioral and neurophysiological (Event related potential - ERP, Transcranial magnetic stimulation-TMS) measures of brain structure and function.

Our New Orleans based research group is comprised of a diverse set of individuals from a variety of disciplines, the sum of which provides a comprehensive, programatically-oriented system in which to pursue work in the areas mentioned above. The overarching goal of our research program is to examine typical and atypical human communication. Human communication is complex and involves many neural systems.

Our research program focuses on the following neural systems: auditory, speech, language, motor (oral & limb movements), emotional processing, learning & memory. Figure 1 depicts our research approach. Our goal is to learn more about brain and behavior in both health and disease states. Normal development and healthy aging are studied in order to learn more about atypical function and maladaptive effects that result in functional deficits. To meet these goals, our projects focus on the study of basic neural mechanisms (i.e., neurocognitive, neurophysiological and neuroimaging approaches) with an eye toward the development of effective treatment strategies and rehabilitation. We conduct: (1) Behavioral Studies, (2) Physiological Studies, and (3) Neuroimaging studies.

Residents will be allowed to participate in ongoing studies and will be encouraged to develop their own research project in a specific discipline with a faculty mentor. This rotation can be a one-month rotation that is self-limited or may develop into an ongoing collaboration with a faculty research mentor.
Goals & Objectives:

Medical Knowledge:

1. Residents will learn about clinical translational research including:
   a. Study Design
   b. Participant recruitment & Testing – including informed consent
   c. Statistical Analysis
2. Residents will focus on one major area of clinical research to include:
   a. Development & Developmental Disorders
   b. Aging, Dementia, Stroke
3. Residents will choose a faculty mentor to focus their learning and the development of a research project (e.g. Dr. Devier – Aging & Mild Cognitive Impairment)
4. Residents will learn the neuropsychology, neuroanatomy and neurochemistry of the brain-based system specific to their chosen area of focus (e.g., learning & memory)
5. Residents will understand neuropsychological, neurophysiological (ERP, TMS) and neuroimaging studies (MRI, PET, SPECT) used in cognitive & behavioral research

Patient Care – Clinical Research Participants:

1. Residents will be required to complete the LSUHSC IRB required program of study (web-based) including certification for human studies
2. Residents should gather the essential history and obtain accurate information on study participants
3. Residents will learn how to perform an expanded mental status examination
4. Residents will learn about neuropsychological testing

Interpersonal & Communication Skills

1. Demonstrate effective communication with other physician, research or healthcare providers
2. Participate as an active member of the research team. Residents will interact closely with their mentor and will be supervised in all research related activities that involve human subjects.

Practice Based learning

1. Residents should research questions regarding their chosen research topic focusing on information technology
2. Residents should be able to apply clinical research literature to their delivery of care

Professionalism

1. Residents will interact responsibly with all research faculty, staff, and personnel
2. Residents will interact responsibly with others involved in research activities

System Based practice

1. Residents will learn about research mechanisms of support (extramural, investigator initiated, industry sponsored)
2. Residents will learn about the National Institutes of Health, Foundation & other mechanisms of research support