Learning Objectives for One-Month Elective at the UCSF Memory and Aging Center (Neurology Residents)

UCSF Weill Institute for Neurosciences

Memory and Aging Center

ACGME Core Competencies

a. Patient care
b. Medical knowledge
c. Practice based learning
d. Interpersonal and communication skills
e. Professionalism
f. Systems-based practice

Course Objectives *(core competencies in parentheses)*

1. Discuss the definition of dementia, as used by clinicians *(a,b,c,d).*
2. Differentiate dementia from mild cognitive impairment (MCI) or cognitive impairment, not demented (CIND) *(a,b,c,d)*
   - Discuss the typical neuropsychological profile in "memory-impaired" MCI
   - Discuss the role and implications of neuropsychological testing in MCI
3. Differentiate the major clinical presentation (clinical history, exam findings) for several common dementia syndromes *(a,b,c,d):*
   - Alzheimer's disease
   - Frontotemporal dementia
   - Semantic dementia
   - Progressive non-fluent aphasia
   - Progressive supranuclear palsy
   - Corticobasal degeneration
   - Diffuse Lewy body dementia
   - Creutzfeldt-Jakob disease
   - Huntington's disease
4. Discuss and identify on microscopy the pathologic hallmarks, or major pathologic findings, in each of the above dementia syndromes *(a,b,c,d).*
5. Differentiate the major domains of cognitive function relevant to dementia and discuss how impairment in each domain would present clinically *(a,b,c,d):*
   - Executive dysfunction
   - Memory dysfunction (recent, remote)
   - Semantic memory impairment
   - Visuospatial dysfunction ("what" and "where" pathways)
   - Expressive language impairment, including speech apraxia
   - Receptive language impairment
   - Apraxia
6. Differentiate the major domains of behavioral function relevant to dementia and discuss how impairment in each domain would present clinically *(a,b,c,d):*
   - Apathy
   - Disinhibition

- Agitation, irritability
- Delusions
- Hallucinations
- Eating disorders
- Obsessive/compulsive behaviors
- Sleep disorders
- Depression

7. Discuss which cognitive domains are associated with which major anatomical structures in the brain *(a,b,c,d).*
8. Identify the well-established neuroanatomical associations with behavioral dysfunction *(a,b,c,d).*
9. Differentiate the major lobes of the brain on an MRI, and the hippocampi and the basal ganglia *(a,b,c,d).*
10. Discuss the role that neuropsychological testing can play in the evaluation of cognitive domains *(a,b,c,d).*
11. Perform the MMSE and bedside evaluation of other cognitive domains *(a,b,c,d,e,f).*
12. Discuss two neuropsychological tasks that explore the following functions (in some cases, same tests may tap into multiple systems, must explain how the outcome would be different if different system failure is causing the deficit on testing) *(a,b,c,d,e,f):*
    - Frontal lobe generative abilities
    - Executive functions
    - Working memory
    - Episodic memory (verbal and visual)
    - Semantic memory
    - Visuospatial dysfunction ("what" and "where" pathways)
    - Expressive language including speech apraxia
    - Receptive language
    - Apraxia
13. Perform an examination to elicit the major exam findings in typical Parkinson's disease and atypical parkinsonian disorders *(a,b,c,d,e).*
14. Perform an examination to identify useful findings in eye movements for the diagnosis of parkinsonian dementias *(a,b,c,d,e).*
15. Recommend laboratory testing for the evaluation of dementia *(a,b,c,d,e,f).*
    - What blood tests?
    - Brain imaging? What kind?
16. Differentiate typical and "rapidly progressive" dementia *(a,b,c,d).*
17. Generate a reasonable differential diagnosis for entities causing rapidly progressive dementia *(a,b,c,d,e,f).*
18. Recommend at least two effective medications, or treatment strategies for the following symptoms in dementia *(a,b,c,d,e,f).*
    - Memory dysfunction
    - Agitation, aggression
    - Depression
    - Parkinsonism
19. Discuss the important genetic associations for common dementia syndromes *(a,b,c,d).*
    - Alzheimer's disease
    - Frontotemporal dementia
    - Huntington's disease
    - Lewy body disease
    - Creutzfeldt-Jakob disease
20. Discuss how genetic factors affect clinical presentation (when this is known) in these disorders *(a,b,c,d).*