# NEI’s Master Psychopharmacology Program
## Study Guide: Dementia and Cognitive Function

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<th>Subtopic</th>
<th>Benchmarks (You Should Be Able To)</th>
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| **Symptom Presentation and Assessment** | - Describe the clinical features of Alzheimer dementia  
- Describe the symptoms and presentation of mild cognitive impairment  
- Identify differences in presentation between Alzheimer dementia and depression  
- Describe the typical course of Alzheimer dementia  
- Identify diagnostic methods under study for identifying Alzheimer dementia at the presymptomatic stage  
- Describe the practical application of the new dementia diagnostic guidelines in a mental health setting | **Additional Resources**  
This Month in Psychopharmacology, Alzheimer Articles |
| **Neurobiology of Symptoms**     | - Define what beta amyloid plaques and neurofibrillary tangles are  
- Explain the amyloid cascade hypothesis  
- Explain the potential role of APO-E and other genes in the development of Alzheimer dementia  
- Identify the hypothesized pathology of different dementias  
- Explain the role of acetylcholine and cholinergic receptors in cognition and the development of Alzheimer’s disease  
- Explain the role of glutamate in cognition and the development of Alzheimer’s disease | **Learning Activities**  
Alzheimer Pathology: A Brief Overview (CME animation)  
The Mediterranean Diet and Healthy Brain Aging (CME animation)  
Parkinson’s Disease Psychosis: A Serotonin-Dopamine Imbalance (CME animation)  
**Additional Resources**  
Depression-Diabetes-Dementia: A Convergence of Diseases (CME video) |

*You may choose any 24 non-expired Learning Activities to complete the requirements of the Master Psychopharmacology Program. For the full list of Master Psychopharmacology Program requirements, please visit nei.global/mpp.*

**These resources do not count toward the requirements of the Master Psychopharmacology Program and are merely listed here as useful resources for additional study.*
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| **Mechanisms of Dementia Treatments** | Describe potential mechanisms for enhancing cholinergic neurotransmission  
Describe potential mechanisms for modulating glutamatergic neurotransmission | **Learning Activities**  
*Mechanism of Action of Pimavanserin in Parkinson’s Disease Psychosis: Targeting Serotonin 5HT2A and 5HT2C Receptors (article)*  
**Additional Resources**  
| **Clinical Characteristics of Dementia Treatments** | Identify currently available agents with evidence of efficacy in Alzheimer’s disease  
Describe the range of responses expected with medication treatment of Alzheimer’s disease  
Describe the clinically relevant binding profiles and hypothesized corresponding clinical effects for each agent with evidence of efficacy in Alzheimer’s disease  
Identify notable side effects for each agent used in Alzheimer’s disease  
Identify any contraindications or major drug interactions for each agent used in Alzheimer’s disease | **Additional Resources**  
NEI Prescribe  
Dementia medication prescribing information/package insert |

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| **Treatment Strategies**  | - Identify appropriate monotherapies for Alzheimer dementia  
- Identify potential adjunct or combination treatments for Alzheimer dementia  
- Identify novel mechanisms and strategies being investigated for potential application to dementia treatment | **Learning Activities**  
Clinical Trials in Alzheimer’s Disease: Immunotherapy (CME animation)  
**Additional Resources**  
NEI Prescribe  
This Month in Psychopharmacology, Alzheimer Articles  
Hope on the Horizon: An Update on the Early Detection and Treatment of Alzheimer’s Disease (video) |
| **Special Considerations**| - Explain recommendations for dementia treatment selection/maintenance in women who are pregnant or breastfeeding  
- Identify dementia treatments for which dosing recommendations are different for individuals with medical complications | **Additional Resources**  
Dementia medication prescribing information/package insert  
NEI Prescribe |

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