

# What is Dementia?



- ❧ DEMENTIA is the general term for declines or deficits in cognitive abilities AND declines or deficits in daily functioning
- ❧ MILD COGNITIVE IMPAIRMENT (MCI) refers to deficits in cognition WITHOUT deficits in daily functioning
- ❧ Dementia can be DUE TO various diseases
  - ❧ Alzheimer's Disease
  - ❧ Cerebrovascular Disease (strokes or mini strokes)
  - ❧ Lewy Body Disease
  - ❧ Parkinson's Disease

# Neuropsychologists love patterns!



- ❧ Different patterns of test scores are associated with different conditions
- ❧ These pattern differences are associated with where the neuropathological changes occur in the brain, at the various stages of the disease
- ❧ Alzheimer's Dementia and Vascular Dementia have different patterns of strengths and weaknesses
- ❧ Alzheimer's Dementia and Lewy Body Dementia have different patterns of strengths and weaknesses

# Alzheimer's Dementia versus Vascular Dementia

	WNL	Subtle (<1 SD)	Mild (1-1.5 SD)	Moderate (1.5-2 SD)	Severe (>2 SD)	Not Assessed
Attention		AD		VascD		
Processing Speed			AD	VascD		
Language	VascD		AD			
Visuospatial		VascD	AD			
Learning				AD, VascD		
Memory: Retrieval			VascD		AD	
Memory: Recog.	VascD				AD	
Executive				AD	VascD	
Global Rating				AD, VascD		
Effort	AD, VascD					
Mood			AD	VascD		
Personality/ Behavior	AD		VascD			

AD=Alzheimer's Dementia; VascD=Vascular Dementia

# Alzheimer's Dementia versus Lewy Body Dementia

	WNL	Subtle (<1 SD)	Mild (1-1.5 SD)	Moderate (1.5-2 SD)	Severe (>2 SD)	Not Assessed
Attention		AD		LBD		
Processing Speed			AD	LBD		
Language			AD, LBD			
Visuospatial			AD		LBD	
Learning			LBD	AD		
Memory: Retrieval			LBD		AD	
Memory: Recog.	LBD				AD	
Executive				AD	LBD	
Global Rating				AD, LBD		
Effort	AD, LBD					
Mood	AD, LBD					
Personality/ Behavior		AD		LBD		

AD=Alzheimer's Dementia; LBD=Lewy Body Dementia



# Measuring Hippocampal Function with Neuropsychological Tests

---

- ❧ Memory tests “tap into” the function of the hippocampi
  - ❧ For example, learn a list of 12 words over 4 learning trials
  - ❧ Recall them after a 20 minute delay
  - ❧ Recognize those words amongst a list of target and distractor words
- ❧ **Alzheimer’s patients** have difficulty recalling and recognizing the words because the information has not been retained (the file has not been saved)
- ❧ **Vascular dementia patients** have difficulty learning the words, recall some of what they got in, and recognize most of the words accurately (the file has been misplaced)
- ❧ **Lewy Body dementia patients** are disorganized with learning and recall, but recognize most of the words (file has been set aside)