



Differential Diagnosis of Memory Dysfunction

Disease	Notes
Delirium (see Approach to the Altered Mental State)	Altered level of alertness and attention, often in conjunction with globally impaired cognition. Onset may be abrupt, and fluctuating level of alertness is common. Older patients often appear to have psychomotor retardation, and may show the full range of mental status abnormalities, including depressed or elevated mood, hallucinations, delusions, and agitated behavior. Making the diagnosis is critical, because it often reflects a serious systemic disturbance. Metabolic derangement, medication effects, and infection are the most common causes.
Depression (see Depression)	Low mood, reduced enjoyment of activities, diminished sense of self-worth or confidence, hopelessness, altered drives, including appetite, libido, and sleep. May have increased somatic complaints, irritability, and wishes for death. Cognitive impairment may be solely a result of a major depressive illness; however, depressed mood may also be the initial presentation of a dementia.
Drugs	Benzodiazepine use is particularly associated with memory loss. Other drugs are also associated with memory loss, as well as delirium.
Mild cognitive impairment	Evidence of objective memory impairment in the absence of other cognitive deficits, and intact ADL. Patients with mild cognitive impairment progress to dementia at a rate of about 12%-15% per year.
Alzheimer disease	Gradual memory loss, preservation of level of consciousness, impairment in IADL performance may also be present. Falls, tremor, weakness, or reflex abnormalities, are not typical early in the disease course. As the illness progresses, aphasia, apraxia, agnosia, inattention, and left-right confusion will develop. Seizures are present frequently in advanced disease; their presence earlier in the course suggests a diagnosis other than Alzheimer disease.
Normal pressure hydrocephalus	Clinical triad of dementia, gait abnormality (slow, broad-based, impaired turning), and urinary incontinence. CT scan of head is useful. Ventriculo-peritoneal shunting can be curative in some patients.
Subdural hematoma	History of falls or head injury, although absence of this history does not rule out the diagnosis. Nonspecific headache may be present. Level of consciousness may wax and wane. Neurologic deficits can be minor. Classic

presentation is the exception rather than the rule.

Vitamin B ₁₂ deficiency (see Anemia)	Insidious onset of dementia. May be associated with depression. Neurologic exam may reveal diminished proprioception and vibratory sense, ataxia, and a positive Babinski sign. If clinical suspicion is present, and serum B ₁₂ is in the low-normal range, elevated serum methylmalonic acid and homocysteine levels indicates low intracellular vitamin B ₁₂ .
Thyroid disease (see Thyroid Disease)	Both hypothyroidism and hyperthyroidism can lead to dementia. Screening TSH at the beginning of a dementia workup establishes the diagnosis.
Alcohol (see Substance Abuse)	Chronic alcohol use appears to lead to a mild to moderate dementia, which may reverse after a period of abstinence.

CT = computed tomography; IADL = instrumental activities of daily living;;

Table from *Physicians Information and Education Resource (PIER)*, Dementia module.