in brief
for healthcare professionals

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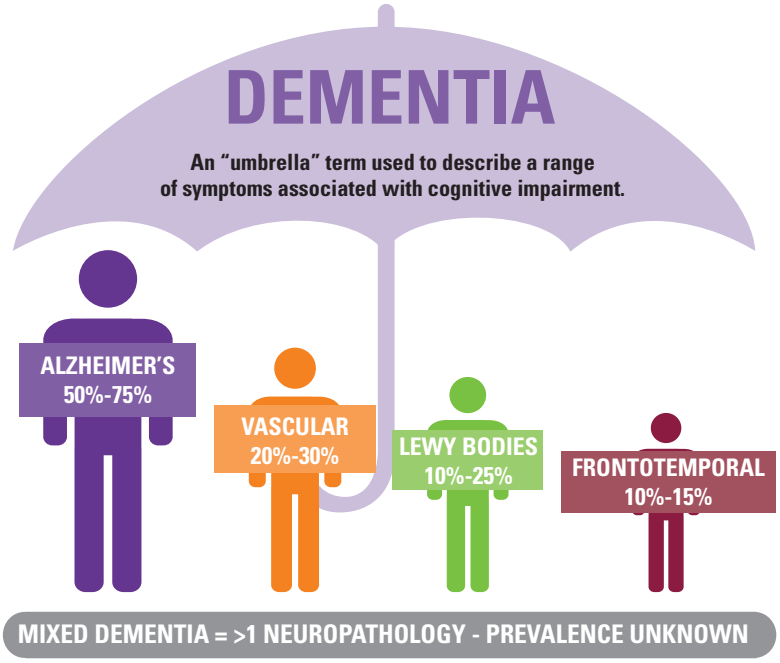
Differentiating Dementias

"My mom has dementia, not Alzheimer's." This statement reflects the lack of understanding among patients and caregivers that dementia is not a specific disease but a range of symptoms associated with cognitive impairment severe enough to affect a person's ability to perform everyday activities. Alzheimer's disease (AD) is the most prevalent cause of dementia, but there are many other causes as well. Other common types of dementia include vascular dementia (VaD), dementia with Lewy bodies (DLB), Parkinson dementia (PD), frontotemporal dementia (FTD), and mixed dementia (2 or more etiologies, most commonly AD and VaD)(Figure 1). Creutzfeldt-Jakob disease, Huntington's, Wernicke-Korsakoff syndrome, and normal pressure hydrocephalus are just a few of the dementias that appear less frequently.

Figure 1. Common Forms of Dementia



Physicians often define dementia based on the criteria given in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. The latest version, the fifth edition (DSM-5), includes a new, broader diagnostic category called major neurocognitive disorders (NCD), which incorporates the former diagnosis of dementia.[1] To meet the *DSM-5* criteria for major neurocognitive disorder, an individual must have evidence of significant cognitive decline in memory or another cognitive ability, such as language or learning, that *interferes* with independence in everyday activities. For example, an individual may need assistance with complex activities such as paying bills or managing medications. Mild cognitive impairment, or MCI, is now subsumed under the *DSM-5* criteria for mild neurocognitive disorder—an individual has evidence of modest cognitive decline, but the impairment *does not interfere* with performing complex activities. It might take more effort, but a person can still pay bills and manage their medications.

Although there are commonalities among the dementias (or NCDs), examining the course and clinical features of a patient's cognitive impairment can help differentiate between the various common subtypes (Table 1). This helps determine the treatment and support services appropriate for the dementia.

References

1. American Psychiatric Association, American Psychiatric Association. *Diagnostic and statistical manual of mental disorders: DSM-5*. 5th ed. Washington, D.C: American Psychiatric Association; 2013. **2.** Budson AE, Solomon PR. *Memory Loss : A Practical Guide for Clinicians*. [Philadelphia]: Elsevier Saunders; 2011. **3.** Zupancic M, Mahajan A, Handa K. Dementia with lewy bodies: diagnosis and management for primary care providers. *Prim Care Companion CNS Disord*. 2011;13(5). doi:10.4088/PCC.11r01190.

Table 1. Differentiating between common forms of dementia

	AD	VaD	DLB	PaD	FTD
Course	• Insidious onset and gradual progression[1]	• Presentation based on extent and location of cerebrovascular event (CVE)[1] • Often stepwise decline[2]	• Insidious onset and gradual progression[1]	• Insidious onset and gradual progression[1]	• Insidious onset and gradual progression[1]
Presentation	• Memory loss and impaired learning early in the disease[1] • Visuospatial and language deficits present in moderate to severe stage[1]	• Temporal relationship between CVE and onset of cognitive impairment[1] • Memory loss usually secondary to impairment in frontal/executive function[2]	• Fluctuating cognition with early changes in attention and executive function[1] • Detailed, recurrent visual hallucinations present early in the disease[1] • Cognitive symptoms start shortly before or concurrently with motor symptoms[1]	• Established Parkinson's disease of at least a year duration before onset of cognitive decline[1,2]	• Behavioral variant: Impaired social cognition and/or executive abilities with behavioral symptoms such as disinhibition, apathy, lack of empathy, compulsive behavior and hyperorality[1] • Language variant: Loss of word memory, including speech production, word finding and comprehension, and grammar[1] • Many present with both types[1]
Associated features	• Behavioral and psychological symptoms are common – Early: Depression, apathy[1] – Moderate to severe: psychotic features, agitation, wandering[1] – Late: Gait disturbance, dysphagia, incontinence, myoclonus, seizures[1]	• History of stroke and/or transient ischemic attacks[1] • Personality and mood changes[1] • May exhibit parkinsonian features such as psychomotor slowing, but not sufficient for Parkinson's diagnosis[1] • Slow, gradual progression often due to small vessel disease[1]	• Rapid eye movement sleep behavior disorder may be early sign[1] • Nearly 50% have severe neuroleptic sensitivity[1] • Falls, syncope and transient loss of consciousness are common1 • Autonomic dysfunction[1] • Often a history of delirium during illness or surgery[1]	• Apathy, anxious or depressed mood, hallucinations, delusions, personality changes, rapid eye movement sleep disorder and excessive daytime sleepiness[1]	• Extrapyramidal symptoms may be present[1] • Overlaps with other neurological conditions such as progressive supranuclear palsy, corticobasal degeneration and motor neuron disease[1] • Visual hallucinations may be present1 • Majority (3/4) present between the ages of 56 to 65[2]
Risk factors	• Age, genes, Down's, traumatic brain injury[1] • Family history of Alzheimer's disease in a first-degree relative doubles the risk[2]	• Hypertension, diabetes, smoking obesity, hypercholesterolemia, high homocysteine levels and other risk factors for atrial fibrillation and athero- and arteriosclerosis[1]	• Genetic risk identified but no family history in most cases[1,2]	• Exposure to herb- and pesticides, duration of disease[1]	• Up to 40% are familial[2] • Present in up to 10% of patients with motor neuron disease[2] • Brief cognitive assessments often normal[2]
Imaging	• Hippocampal and temporoparietal cortical atrophy[1]	• Infarcts and white hyperintensities[1]	• Lewy bodies found primarily in the cortex[1] • Medial temporal structures preserved[1]	• Lewy bodies found primarily in the basal ganglia[1] • Medial temporal structures preserved[3]	• Pattern of brain atrophy dependent on subtype[1]
Other	• Often occurs with VaD[1]	• Only 5-10% have pure VaD[2] • Often occurs with AD and/or DLB[1,2] • Depression is often present[2]	• Frequently coexists with AD and/or VaD[1]	• Distinguish from neuroleptic-induced parkinsonism, which may occur when dopamine-blocking drugs are prescribed for behavioral symptoms[1] • Often coexists with AD and VaD[1]	• May be mistaken for depression, bipolar disorder or schizophrenia[1]

This table can help inform a full dementia evaluation, but it is not a diagnostic tool. Primary care practitioners should consider seeking the opinion of a dementia expert in cases in which it is warranted. For more information on these and other types of dementia, visit alz.org/hcps.