# Dementia and Cognitive Impairment

## Epidemiology, Diagnosis, and Treatment

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**KEYWORDS**

• Neurocognitive disorder • Mild cognitive impairment (MCI)
• Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)
• National Institute on Aging–Alzheimer's Association (NIA-AA) guidelines • Diagnosis
• Risk factors • Biomarkers • Alzheimer's disease

**KEY POINTS**

- Clinicians should be knowledgeable about the various neurocognitive disorders, which are common and severe in elderly adults.
- Diagnosis requires careful history taking and skilled clinical assessment, followed by appropriate laboratory investigations.
- Diagnostic imaging can be useful when interpreted by experts familiar with these conditions.
- Biomarkers for most of these disorders are still being validated and are not yet recommended for clinical use.
- Referral to specialists can be valuable for specific purposes, such as neuropsychologists for objective cognitive testing and interpretation; neurologists for diagnosis, particularly of the less common disorders; geriatric psychiatrists when there are psychological or behavioral challenges.
- Drug treatments at present provide symptomatic relief. Psychosocial and other supportive therapies are essential.

## INTRODUCTION

When elderly patients and their families report symptoms of memory loss, experienced clinicians know that these concerns refer to a range of cognitive abilities or to general cognitive decline, and not just memory. However, some degree of cognitive slowing is typical of normal aging.

The clinician's first challenge is therefore to identify the cognitive changes that are clinically significant. Dementia is typically diagnosed when acquired cognitive

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impairment has become severe enough to compromise social and/or occupational functioning. Mild cognitive impairment (MCI) is a state intermediate between normal cognition and dementia, with essentially preserved functional abilities.

This article describes these entities and their diagnoses using the framework of the recently published fifth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual, Fifth Edition* (DSM-5) (**Table 1**).[1] The DSM-5 diagnosis of major neurocognitive disorder, which corresponds with dementia, requires substantial impairment to be present in one or (usually) more cognitive domains. The impairment must be sufficient to interfere with independence in everyday activities. The diagnosis of mild neurocognitive disorder, corresponding with MCI, is made when there is modest impairment in one or more cognitive domains. The individual is still independent in everyday activities, albeit with greater effort. The impairment must represent a decline from a previously higher level and should be documented both by history and by objective assessment. Further, the cognitive deficits must not occur exclusively in the context of a delirium or be better explained by another mental disorder.

The clinician's second challenge is to determine the cause(s) of the cognitive impairment (ie, to identify the underlying cause). DSM-5 also provides diagnostic criteria for the most common causal subtypes of the neurocognitive disorders in all age groups. This article focuses on the neurocognitive disorders of elderly adults.

**Table 1**
**Neurocognitive disorders as diagnosed in DSM-5**

| Diagnostic Criteria | Major Neurocognitive Disorder/ Dementia | Mild Neurocognitive Disorder/MCI |
|---|---|---|
| A | Significant cognitive decline in one or more cognitive domains, based on:<br>1. Concern about significant decline, expressed by individual or reliable informant, or observed by clinician<br>2. Substantial impairment, documented by objective cognitive assessment | Modest cognitive decline in one or more cognitive domains, based on:<br>1. Concern about mild decline, expressed by individual or reliable informant, or observed by clinician<br>2. Modest impairment, documented by objective cognitive assessment |
| B | Interference with independence in everyday activities | No interference with independence in everyday activities, although these activities may require more time and effort, accommodation, or compensatory strategies |
| C | Not exclusively during delirium | |
| D | Not better explained by another mental disorder | |
| E | Specify one or more causal subtypes, caused by:<br>• Alzheimer's disease<br>• Cerebrovascular disease (vascular neurocognitive disorder)<br>• Frontotemporal lobar degeneration (frontotemporal neurocognitive disorder)<br>• Dementia with Lewy bodies (neurocognitive disorder with Lewy bodies)<br>• Parkinson's disease<br>• Huntington disease<br>• Traumatic brain injury<br>• Human immunodeficiency virus infection<br>• Prion disease<br>• Another medical condition<br>• Multiple causes | |

*Adapted from* American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th edition. Arlington (VA): American Psychiatric Association; 2013.