

AAN Summary of Practice Guideline for **Clinicians**

Practice Guideline Update: Mild Cognitive Impairment

This is a summary of the American Academy of Neurology (AAN) practice guideline, "Update: Mild Cognitive Impairment," which was published online ahead of print in *Neurology*® on December 27, 2017. It will appear in the January 16, 2018, print issue.

Please refer to the full guideline at *AAN.com/guidelines* for more information, including full descriptions of the processes for classifying evidence, deriving conclusions, and making recommendations.

Recommendations for Assessing Mild Cognitive Impairment (MCI)

Rationale

Appropriate diagnosis of MCI is important because MCI becomes increasingly common as individuals age and is associated with an increased risk of progression to dementia, suggesting that this condition reflects a pathologic disease state rather than normal cognitive aging. Appropriate diagnosis of MCI is important in order to assess for reversible causes of cognitive impairment, to help patients and families understand the cause of their cognitive concerns, and to discuss the prognostic possibilities with the provider so they can plan accordingly, although sharing the diagnosis must be balanced with the potential harm of anxieties from diagnosing a patient with a condition that may not progress. Ascribing cognitive symptoms to normal aging without an assessment for MCI may result in failure to assess for reversible causes of cognitive impairment or to provide patients and families with an accurate diagnosis that may affect life choices, or both. Although subjective cognitive complaints alone are insufficient to diagnose MCI,[e74] such complaints from either patients or their close contacts are core to most major MCI diagnostic criteria, as they may reflect a change in cognitive function.[e75]

Level B	For patients for whom the patient or a close contact voices concern about memory or impaired cognition, clinicians should assess for MCI and not assume the concerns are related to normal aging.

Rationale

In the United States, the Medicare Annual Wellness Visit requires an assessment to detect cognitive impairment.[e76] Subjective cognitive complaints alone can result in both over- and underdiagnosis of MCI and thus are insufficient to screen for MCI.[e74] Clinicians assessing for cognitive impairment should use a brief, validated cognitive assessment instrument in addition to eliciting patient and informant history regarding cognitive concerns.

Level B	When performing a Medicare Annual Wellness Visit, clinicians should not rely on historical report of subjective memory concerns alone when assessing for cognitive impairment.

Rationale

When screening or assessing for MCI, validated assessment tools should be used. Various instruments have acceptable diagnostic accuracy for detecting MCI, with no instrument being superior to another.[e77] Because brief cognitive assessment instruments are usually calibrated to maximize sensitivity rather than specificity, patients who test positive for MCI should then have further assessment (e.g., more in-depth cognitive testing, such as neuropsychological testing with interpretation based on appropriate normative data) to formally assess for this diagnosis. Diagnosis of MCI is based ultimately on a clinical evaluation determining cognitive function and functional status and not solely on a specific test score.

Level B	For patients for whom screening or assessing for MCI is appropriate, clinicians should use validated assessment tools to assess for cognitive impairment.
Level B	For patients who test positive for MCI, clinicians should perform a more formal clinical assessment for diagnosis of MCI.

Rationale

In the presence of cognitive impairment, clinicians need to distinguish between a diagnosis of MCI and one of dementia, although the boundary is not always clear. Diagnosing dementia prematurely can lead to negative consequences for patients and families. Only a proportion of patients with MCI will proceed to dementia. In patients with cognitive impairment, clinicians must carefully assess for evidence of functional impairment limiting independence in daily activities (e.g., by taking a careful history from the patient and a close contact), a requirement for all dementia diagnoses, to help distinguish between MCI and dementia. With a specific inquiry about functional impairment, clinicians may also identify dementia in patients when patients and families are less forthcoming about functional problems.

Level B	For patients with MCI, clinicians should assess for the presence of functional impairment related to cognition before giving a diagnosis of dementia.

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Rationale

Diagnoses of MCI and dementia have important implications for patients and families. Appropriate diagnosis is important for informing evaluation for underlying causes, counseling on long-term prognosis, and recommending therapeutic strategies. Clinicians in many disciplines can have experience in caring for individuals with cognitive impairment, including family practice, geriatrics, internal medicine, neurology, psychiatry, and psychology. When clinicians without experience in cognitive impairment identify patients for whom there is a concern of MCI, they should refer these patients to a specialist with experience in cognition for further evaluation.

Level B	For patients suspected to have MCI, clinicians who themselves lack the necessary experience should refer these patients to a specialist with experience in cognition.

Rationale

Although MCI is a high-risk state for progression to dementia, some patients with MCI remain stable and some improve. Some cases of MCI are associated with reversible causes of cognitive impairment, including medication adverse events, sleep apnea, depression, and other medical conditions.[e78] Patients with MCI should undergo a medical evaluation for MCI risk factors that may be treatable.

Level B	For patients diagnosed with MCI, clinicians should perform a medical evaluation for MCI risk factors that are potentially modifiable.

Rationale

Because patients with MCI can improve, remain stable, or progress cognitively, identifying biomarkers that can stratify risk is expected to be particularly important for prognosis. The use of biomarkers in patients with MCI is a rapidly evolving field,[e79–e81] but to date, there are no biomarkers clearly shown to predict progression in patients with MCI.[e82]

Level B	For patients and families asking about biomarkers in MCI, clinicians should counsel that there are no accepted biomarkers available at this time.
Level C	For interested patients, clinicians may discuss the option of biomarker research or refer patients or both, if feasible, to centers or organizations that can connect patients to this research (e.g., subspecialty centers, Trial Match, *ClinicalTrials.gov*).

Rationale

Because patients with MCI can improve, remain stable, or progress cognitively over time, patients must be monitored serially for changes in status that could change diagnosis and thus management approach (e.g., treatment, counseling). Although MCI has no approved pharmacologic management, there are US Food and Drug Administration (FDA)-approved agents for treatment of Alzheimer dementia,[e83–e87] further emphasizing the importance of assessing for a change in cognitive status over time.

Level B	For patients diagnosed with MCI, clinicians should perform serial assessments over time to monitor for changes in cognitive status.

Recommendations for Management of MCI

Rationale

Some patients with MCI improve or remain stable rather than progress. In addition, some cases of MCI are associated with reversible causes of cognitive impairment, including medication side effects, general medical conditions, sleep disturbance, and depression.[e78] Because these risk factors are treatable and have implications of their own, weaning patients from use of cognitively impairing medications where feasible and treating risk factors that may contribute to cognitive impairment should be the first steps in managing MCI, particularly because symptomatic treatment options are limited for impaired cognition.

Level B	For patients diagnosed with MCI, clinicians should wean patients from medications that can contribute to cognitive impairment (where feasible and medically appropriate) and treat modifiable risk factors that may be contributing.

Rationale

There are no FDA-approved medications for the treatment of MCI. Moreover, there are no high-quality, long-term studies identifying pharmacologic or dietary agents that either improve cognition or delay progression in patients with MCI.

Level B	For patients diagnosed with MCI, clinicians should counsel the patients and families that there are no pharmacologic or dietary agents currently shown to have symptomatic cognitive benefit in MCI and that no medications are FDA-approved for this purpose.

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Rationale

Studies of cholinesterase inhibitors showed no benefit on cognitive outcomes or reduction in progression from MCI to dementia, although some studies could not exclude an important effect. In addition to lacking efficacy, side effects of cholinesterase inhibitors are common, including gastrointestinal symptoms and cardiac concerns.[e88]

Level B	For patients diagnosed with MCI, clinicians may choose not to offer cholinesterase inhibitors.
Level A	If clinicians choose to offer cholinesterase inhibitors, they must first discuss with patients the fact that this is an off-label prescription not currently backed by empirical evidence.

Rationale

Clinical trials provide an opportunity for interested patients to participate in identifying or testing new treatment options, which is of particular importance when no pharmacologic options are available.

Level C	For patients diagnosed with MCI who are interested in pharmacologic treatment, clinicians may inform these patients of centers or organizations that can connect patients to clinical trials (e.g., subspecialty centers, Trial Match, *ClinicalTrials.gov*).

Rationale

Although long-term studies are unavailable, six-month studies suggest a possible benefit of twice-weekly exercise for cognition in MCI. Exercise also has general health benefits and generally limited risk.

Level B	For patients diagnosed with MCI, clinicians should recommend regular exercise (twice per week) as part of an overall approach to management.

Rationale

Because the concept of MCI may be poorly understood or distressing to patients and families, it is important to educate patients and families regarding the diagnosis of MCI and how it may progress to dementia but also how individuals with MCI can remain stable or improve. Because MCI may progress to dementia, and particularly because of the lack of effective pharmacologic therapy or any proven methods to reduce the risk of progression of MCI to dementia, it is particularly important to educate patients with MCI regarding their diagnosis and prognosis at the MCI stage while they can still understand the discussion and participate in planning, even though they may or may not progress. Because of the possibility of progression to a dementia state where patients may no longer be able to participate in decision making, patients with MCI should be encouraged to participate in long-term planning, including topics such as advance directives, living wills, power-of-attorney designations, and finances, which are important irrespective of progression.

Level B	For patients diagnosed with MCI, clinicians should discuss diagnosis and uncertainties regarding prognosis. Clinicians should counsel patients and families to discuss long-term planning topics such as advance directives, driving safety, finances, and estate planning.

Rationale

Although there are no treatments for cognitive symptoms in MCI, clinicians need to evaluate for and treat other symptoms that can contribute to quality of life in MCI. Behavioral/psychiatric symptoms are common in MCI[e89–e91] and may be associated with greater functional impairment[e92] and an increased risk of progression from MCI to dementia.[e93,e94]

Level B	Clinicians should assess for behavioral and neuropsychiatric symptoms in MCI and treat with both pharmacologic and nonpharmacologic approaches when indicated.

Rationale

In patients with MCI, cognitive interventions may be beneficial in improving measures of cognitive function. It is good practice to offer nonmedication approaches to care.

Level C	In patients with MCI, clinicians may recommend cognitive interventions.

This practice guideline was endorsed by the Alzheimer's Association.

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