

What is Mild Cognitive Impairment?

Lesson Summary

Introduction

Mild cognitive impairment, or MCI, is also sometimes called **mild neurocognitive disorder**. It is a condition characterized by noticeable, but not severe, cognitive decline that is greater than expected for a person's age, yet not significant enough to interfere with daily functioning. It often involves difficulties with **memory, attention, language, or executive function**, but individuals with MCI can generally still perform most daily tasks independently.

What are the normal cognitive changes associated with aging?

The changes associated with normal aging are **subtle**. For instance, someone forgetting what they ate for breakfast by lunchtime would never be associated with normal aging.

As we age, some of our cognitive abilities gradually decline.

- We can't remember quite as much when learning new information and it may take a little longer to retrieve information, but it isn't absent.
- We don't process things quite as fast, so it may take longer to perform tasks, solve problems or react.
- Learning more complicated tasks becomes more difficult, such that planning, organizing, or making decisions about complex situations might take more time, but day-to-day decisions are still manageable.

Not all changes associated with normal aging are negative. We continue to make lifelong memories, and even our vocabulary and wisdom may continue to improve later in life. Knowledge and skills acquired through education and experience may improve problem-solving, decision-making and judgement in some contexts.

Some degree of cognitive decline is normal and expected as we age, however, the changes associated with natural aging don't impact a person's ability to **function independently**. Despite these minor cognitive changes, individuals typically retain a good **cognitive reserve**, meaning they can rely on accumulated knowledge, experience, and strategies to compensate for minor cognitive lapses.

How is mild cognitive impairment different from normal aging?

With mild cognitive impairment, there is a modest decline in one or more cognitive domains that is more pronounced than what is seen with normal aging but not as severe as dementia.

The following table highlights the key differences by cognitive domain:

Table 1: Differences between normal aging and mild cognitive impairment

Cognitive Domain	Normal Aging	Mild Cognitive Impairment (MCI)
Memory	Mild forgetfulness (e.g., occasionally forgetting names or where something was placed).	Noticeable memory problems, particularly with short-term memory (e.g., forgetting recent conversations or appointments).
Attention	Slightly reduced attention span, but still able to focus when necessary.	Difficulty with sustained attention and multitasking, often resulting in errors or slower response times.
Executive Function	Mild difficulty with complex planning or decision-making, but can still manage daily tasks.	Difficulty with executive functions like planning, organizing, and problem-solving, affecting daily activities.
Language	Occasional word-finding difficulties, but can usually find alternatives.	Frequent word-finding difficulties, reduced fluency, and sometimes noticeable language comprehension issues.
Processing Speed	Slightly slower cognitive processing (e.g., slower recall), but manageable.	Slower processing speed, especially in complex or new tasks. Takes longer to complete tasks.
Motor Function	No significant motor changes; movement is typically unaffected.	No significant motor changes, though motor coordination may be impacted in some cases (less common in MCI).
Judgment and Problem-Solving	Mild difficulty with complex decisions, but generally able to solve daily problems.	Impaired judgment and problem-solving, especially in unfamiliar or complex situations.
Daily Functioning	Independent in all activities of daily living (ADLs).	Still able to perform ADLs but may require occasional reminders or assistance for more complex tasks.
Insight	Maintains awareness of cognitive changes but generally adapts well.	May have some awareness of cognitive decline, but can also exhibit lack of insight (denial or underreporting).
Cognitive Tests	Performs within normal range for age on cognitive assessments.	Shows measurable cognitive decline on tests (memory, attention, executive function), often one or more domains affected.
Risk of Progression	Stable over time, with minimal change in cognitive abilities.	Increased risk of progression to dementia, but not everyone with MCI develops Alzheimer's or another dementia.

How is mild cognitive impairment different from dementia?

Mild cognitive impairment differs from dementia in that the **cognitive changes** seen in mild cognitive impairment are **less severe**, and **everyday functioning is less impaired**. People

with mild cognitive impairment can still perform tasks such as banking, grocery shopping, and enjoying hobbies, although these tasks may take longer and require more effort. In contrast, dementia involves cognitive decline to the point where it significantly impairs independence in everyday activities and complex tasks are likely too hard to do.

What causes it?

Mild cognitive impairment can be caused by many of the same factors that lead to dementia. It can often be hard to find the cause, but it's important for a health care team to do a full assessment to try to manage any underlying causes.

If **toxic proteins**, like those in Alzheimer disease, are the cause, the cognitive decline is more likely to continue. **Blood vessel damage**, like that from a stroke, may also be a cause, and additional treatments might be recommended to prevent further damage.

It's important to have a proper medical assessment to **rule out other potentially reversible causes** of cognitive impairment that might look like MCI. This includes conditions like depression, thyroid disease, vitamin B12 deficiency, substance use disorders like alcohol use disorder, medication side effects, and others.

How is it diagnosed?

Mild cognitive impairment is diagnosed by a physician, often after a person reports memory and thinking problems. The assessment should include taking a detailed history of the problem from the person as well as from a close friend or family member, a physical exam, cognitive testing, and other tests, such as blood tests or brain imaging, as required to assess for other medical conditions that might be affecting cognition.

Are there treatments?

Unfortunately, there is no targeted therapy for mild cognitive impairment caused by toxic proteins or blood vessel damage. However, general brain health can be improved through a combination of diet, exercise, social activity, and managing blood vessel health, such as controlling blood pressure, cholesterol and diabetes. Social and cognitive activities are also beneficial.

Potentially reversible causes that might be affecting cognition should also be identified and managed. For example, if cognitive symptoms are due to depression or a vitamin B12 deficiency, appropriate therapies can improve cognition. Changes in medication or reducing alcohol intake can also help if these are contributing factors. Having your health care provider or pharmacist review your medications may help to identify those that can contribute to cognitive adverse effects like memory problems

Other strategies for managing mild cognitive impairment

People with mild cognitive impairment are often asked to see an occupational therapist to help them come up with strategies to help manage deficits. Keeping a journal to write down appointments, conversations, and events can be useful. Setting reminders or alerts on smartphones and using pre-filled medication tools like blister packs can help manage daily tasks. Avoiding stressful situations, simplifying tasks, and not multitasking can also reduce the impact of cognitive problems.

What should you do if diagnosed?

If you are diagnosed with mild cognitive impairment, it is important to maintain a positive attitude and use support from family, friends, and community resources. Being proactive is beneficial, such as arranging insurance, wills, and power of attorney to ensure that your loved ones are taken care of in case your cognitive function declines further. This is good advice for everyone as they age but is particularly important for those with mild cognitive impairment due to the higher risk of developing more severe memory and thinking problems in the future.

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