National Institute on Aging/Alzheimer's Association

Diagnostic Guidelines for Alzheimer's Disease

FREQUENTLY ASKED QUESTIONS FOR THE GENERAL PUBLIC

1. What are the main differences between the 1984 diagnostic criteria for Alzheimer's disease and the new guidelines?

The new guidelines differ from the 1984 diagnostic criteria in a few key ways:

- The new guidelines propose that Alzheimer's disease progresses on a spectrum with three stages—an early, **preclinical** stage with no symptoms; a middle stage of **mild cognitive impairment** (MCI); and a final stage of **Alzheimer's dementia**. The 1984 criteria recognized only one stage of disease, Alzheimer's dementia.
- The new guidelines expand the criteria for Alzheimer's dementia beyond memory loss as the initial or major symptom. They recognize that problems with other aspects of cognition, such as word-finding ability or judgment, may be the first symptom to appear. The 1984 criteria focused on memory loss as the central characteristic of Alzheimer's dementia.
- The new guidelines reflect a better understanding of the distinctions between Alzheimer's and non-Alzheimer's dementias and the possible relationship between Alzheimer's and cerebrovascular disease (which affects blood vessels that supply the brain). In 1984, these relationships were not well recognized or understood.
- The new guidelines address the use of biomarkers—measures in blood, fluid, or imaging that could indicate possible Alzheimer's disease. The use of biomarkers for Alzheimer's disease is still considered experimental and is appropriate only for use by researchers at this time. The guidelines call for validating and standardizing the use of biomarkers before they can be applied in a clinical setting, like a doctor's office. Biomarkers for Alzheimer's disease did not exist when the original criteria were developed in 1984, and have been studied intensively in recent years.

Alzheimer's Disease Education & Referral (ADEAR) Center
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2. Why were the diagnostic criteria for Alzheimer's disease revised and who led the effort?

The diagnostic criteria for Alzheimer's disease were revised to reflect a better understanding of the disease. During the past 27 years, scientists have learned much about how Alzheimer's changes the brain, how these changes progress over time, and how they correspond to clinical symptoms. The new guidelines were developed by expert panels convened by the National Institute on Aging and the Alzheimer's Association.

3. How will doctors use the updated guidelines to better diagnose Alzheimer's disease?

Doctors in clinical practice will use the updated guidelines to better inform their diagnosis of Alzheimer's dementia and mild cognitive impairment (MCI). Other aspects of cognition, in addition to memory loss, will now be considered as a possible first symptom of the disorder.

At this time, however, the use of neuroimaging and biomarkers is not yet developed enough for clinicians to diagnose the disease in symptom-free people.

4. My family has a history of Alzheimer's disease. Will the new guidelines help my doctor know if I will or will not one day get the disease?

At this time, doctors cannot predict with any certainty who will or will not develop Alzheimer's dementia. Researchers are studying markers in blood and spinal fluid, as well as changes in the brain shown on brain scans, that one day may be able to tell us who is at risk for developing Alzheimer's dementia. The guidelines, as used by researchers, will help make this possible.

5. What is "preclinical" Alzheimer's disease?

Preclinical Alzheimer's disease is a new concept that indicates that changes in the brain, including deposition of abnormal proteins, can be detected before there are any clinical symptoms. Research will investigate the usefulness of this concept under the new guidelines. The course of Alzheimer's disease varies widely from one person to the next, but, generally, scientists have observed that changes in the brain can begin 10 or more years before clinical symptoms like memory loss appear.

6. What is mild cognitive impairment? How is it different from Alzheimer's dementia?

Mild cognitive impairment (MCI) is a condition characterized by memory issues or other thinking problems that are greater than normal for a person's age and education, but not serious enough to interfere with a person's ability to function independently. Many, but not all, people with MCI progress to Alzheimer's dementia. The kinds of problems associated with MCI may also be caused by certain medications, cerebrovascular disease

(which affects blood vessels that supply the brain), and other factors. It is important to talk with your doctor because some of the problems brought on by these conditions can be managed or reversed.

7. How can doctors know when mild cognitive impairment becomes early-stage Alzheimer's dementia?

The Alzheimer's disease process progresses slowly, and it can be difficult to identify the transition from MCI to the early stages of dementia. If the symptoms of MCI continue or worsen over time and other cognitive problems become apparent, everyday functions may become compromised, and the patient will have more and more trouble functioning independently. Today—just as it was a quarter of century ago—the key factor in diagnosing Alzheimer's dementia is losing the ability to live independently. It may be, some experts suggest and the new guidelines discuss, that MCI with minor loss of independent function indicates early-stage Alzheimer's disease.

Experts can evaluate the extent of cognitive impairment by using neuropsychological tests to measure changes in memory, language, and other cognitive abilities. They also talk to the person and their caregivers and family about any changes in the person's ability to carry out everyday activities, such as paying bills and preparing meals. Not everyone with MCI develops Alzheimer's. Among people with MCI, impaired ability to learn and retain new information, such as remembering a story or something that happened recently, is associated with an increased likelihood of worsening memory problems leading to Alzheimer's dementia.

8. What are biomarkers?

Biomarkers are measures that indicate the presence or absence of disease or factors that can increase or decrease your risk of disease. You are most likely familiar with elevated blood cholesterol as a risk factor for heart disease. In the case of Alzheimer's disease, biomarkers being studied include physical changes in the brain, such as shrinkage in specific brain regions, and certain protein levels in blood and cerebrospinal fluid. These changes, which are measured by imaging, blood, and lumbar puncture tests, may detect who is at risk for Alzheimer's disease. Biomarkers are also being studied to see how they may be used to measure disease progression or the effect of interventions.

9. Why are some of the new guidelines to be used only for research?

At this time, biomarkers are to be used only for research. Investigators are working hard to better understand how biomarkers relate to the underlying disease process and whether biomarker measures can accurately predict who will or will not develop Alzheimer's dementia. Biomarker tests also must be standardized to ensure they are measured correctly and consistently before they can be used in all clinical settings.

10. Can doctors use the guidelines to diagnose other kinds of dementia besides Alzheimer's?

No. The guidelines apply only to Alzheimer's disease. In specialized clinical settings and research settings, they may be used to confirm or rule out Alzheimer's as a cause of cognitive impairment and dementia. Alzheimer's disease is the most common form of dementia. Other forms include vascular dementia, which results from strokes or changes in the brain's blood supply; dementia with Lewy bodies; and the frontotemporal disorders. Researchers are still working on the best ways to diagnose these other types of dementia.

11. How can I learn more about the updated guidelines?

The new diagnostic criteria for Alzheimer's disease are found in the April 19, 2011, issue of *Alzheimer's & Dementia: the Journal of the Alzheimer's Association*, a peer-reviewed medical journal. To view the papers outlining the new guidelines, go to: *www.alz.org/research/diagnostic_criteria.*

12. Will the new guidelines be updated as new information becomes available?

Alzheimer's disease research is ongoing. As results become available, future panels will consider emerging technologies and advances in the understanding of biomarkers and the disease process itself. Individuals with and without Alzheimer's disease can participate in this research by volunteering for clinical studies and trials. To find out more about Alzheimer's clinical trials, talk to your health care provider or contact NIA's ADEAR Center at 1-800-438-4380 or visit *www.nia.nih.gov/Alzheimers*. More information about clinical trials is available at: *www.ClinicalTrials.gov*.
Also see **Participating in Alzheimer's Disease Clinical Trials and Studies** at: *www.nia.nih.gov/Alzheimers/Publications/trials-studies.htm.*