

Discussing biomarkers for Alzheimer's disease

The below information might help as you discuss biomarker testing with your patients with mild cognitive impairment or mild dementia

1 PATIENT QUESTION

I already know I have mild cognitive impairment, so why should I have another test?

Identifying Alzheimer's disease (AD) in the mild cognitive impairment (MCI) stage with biomarker confirmation is the first opportunity to diagnose AD and initiate patient care. AD is a progressive disease, which means there is a limited window of time between the initial symptoms of MCI and the functional impairment due to dementia.¹



AD is the most common cause of MCI, with AD occurring in an estimated **34%-75% of patients with MCI**.^{2,3*}



Patients in the MCI stage of AD may progress to the mild dementia stage **in as little as 2 years**, so early detection of Alzheimer's disease is key to initiating patient care.⁴

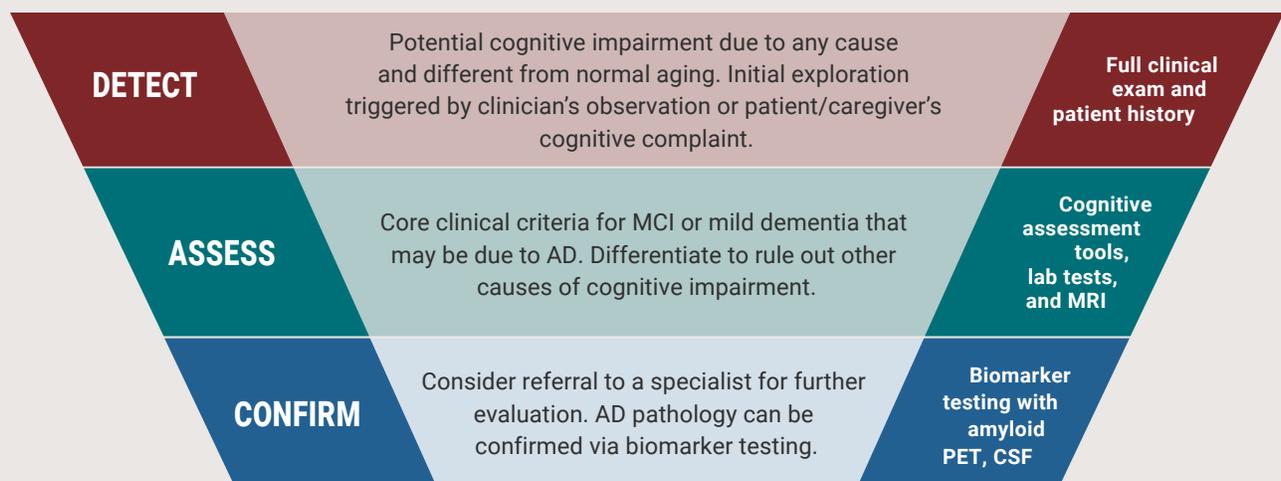
*In the Aging, Demographics, and Memory Study (ADAMS), individuals were classified as having cognitive impairment without dementia.

2 PATIENT QUESTION

Will this test help determine what is causing my mild cognitive impairment?

Biomarker testing alone cannot provide a definitive diagnosis, but the presence of certain AD biomarkers in a patient with confirmed cognitive complaints increases the likelihood that the cognitive impairment is due to AD. Recent International Working Group recommendations require both a clinical evaluation and biomarker assessment to complete an AD diagnosis.⁵ The following steps may be helpful on the path to detection and diagnosis:

Detect, Assess, Confirm: A 3-Step Approach to Evaluating MCI or Mild Dementia Due to AD⁶⁻⁹



CSF=cerebrospinal fluid; MRI=magnetic resonance imaging; PET=positron emission tomography.

3 PATIENT QUESTION

How is biomarker testing performed?

Biomarker testing can be performed in 2 ways, based on your medical needs and preferences: with cerebrospinal fluid analysis (CSF) via lumbar puncture or positron emission tomography (PET) imaging.⁵

Information for Patients: CSF Analysis and PET Imaging¹⁰⁻¹⁵

CSF Testing via Lumbar Puncture		PET
Procedure done in an outpatient setting (either at a hospital, surgery center, or doctor's office)	Location	Performed at a diagnostic imaging center, either in a hospital, clinic, or office
Physician (neurologist or interventional radiologist), nurse practitioner, physician assistant	Clinician	Nuclear medicine specialist or radiologist
Concentrations of proteins	Measure	Radiotracer retention in the brain
Lumbar puncture is a procedure used to collect CSF from between the L3 and L4 or L4 and L5 vertebrae at a safe distance from the patient's spinal cord	Method	Brain imaging done with radioactive tracers to visualize the density of amyloid plaques
Headache, back pain [†]	Most Common Side Effects	Injection site reactions, headache, flushing, increased blood pressure [†] <i>PET imaging contributes to a patient's overall radiation exposure.</i>

[†]This is not an exhaustive list of possible adverse events.

4 PATIENT QUESTION

What if the test shows that my cognitive impairment is due to Alzheimer's disease?

Evidence-based care options after diagnosis in the MCI or mild dementia stages of AD are widely available. Early diagnosis also provides an opportunity to plan ahead while cognitive impairment remains mild.¹⁶



Implement lifestyle changes

A focus on overall brain health to reduce cognitive decline may include exercise, smoking cessation, low-fat/high vegetable and fruit diets, and adequate sleep.¹⁶



Cognitive and mental health stimulation

Strategies to enhance cognitive function can include cognitive training and stimulation, reality orientation, and reminiscence therapy, and may be beneficial for patients with dementia. Mental health experts can provide options for psychological and behavioral therapies, counseling, and peer support groups.^{16,17}



Plan ahead for personal safety and addressing financial concerns

Discuss safety considerations, such as risk of falls, wandering, and driving implications, as well as appropriate living arrangements, financial concerns, and ongoing care needs. Consider consulting a physical therapist to improve function and protect against slips and falls.¹⁸

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