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[HOW IS ALZHEIMER'S DISEASE DIAGNOSED?](#)

Medical Tests for Diagnosing Alzheimer's

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There is no single diagnostic test that can determine if a person has Alzheimer's disease. Physicians (often with the help of specialists such as neurologists, neuropsychologists, geriatricians and geriatric psychiatrists) use a variety of approaches and tools to help make a diagnosis. Although physicians can almost always determine if a person has dementia, it may be difficult to identify the exact cause.

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Medical history

During the medical workup, the health care provider will review the person's medical history, including psychiatric history and history of cognitive and behavioral changes. He or she will want to know about any current and past medical problems and concerns, as well as any

medications the person is taking. The doctor will also ask about key medical conditions affecting other family members, including whether they may have had Alzheimer's disease or other dementias.

What to expect

Take our interactive tour to learn what to expect when being evaluated for memory and thinking problems.

[Take the Tour](#)

Physical exam and diagnostic tests

During a medical workup, the physician will likely:

- Ask about diet, nutrition and use of alcohol.
- Review all medications. (Bring a list or the containers of all medicines currently being taken, including over-the-counter drugs and supplements.)
- Check blood pressure, temperature and pulse.
- Listen to the heart and lungs.
- Perform other procedures to assess overall health.
- Collect blood or urine samples for laboratory testing.

Information from a physical exam and laboratory tests can help identify health issues that can cause symptoms of dementia. Common causes of dementia-like symptoms are depression, untreated sleep apnea, delirium, side effects of medications, thyroid problems, certain vitamin deficiencies and excessive alcohol consumption. Unlike Alzheimer's and other dementias, these conditions often may be reversed with treatment.

Be prepared for the doctor to ask:

- What kind of symptoms have you noticed?

- When did they begin?
- How often do they happen?
- Have they gotten worse?

The doctor may also ask a family member to provide input about changes in your thinking skills and behavior. See our [Communicating with Doctors or Health Care Professionals](#) (PDF) to get ready for your appointment.

If the diagnosis is Alzheimer's or other dementia, you or your loved one are not alone. Join our free online community [AlzConnected](#) to share questions, experiences and practical tips on message boards and in live chat rooms.

Neurological exam

During a neurological exam, the physician will closely evaluate the person for problems that may signal brain disorders other than Alzheimer's. The doctor will look for signs of stroke, Parkinson's disease, brain tumors, buildup of fluid in the brain, and other conditions that may impair memory or thinking.

If the evaluation does not indicate Alzheimer's disease or other dementia, but the symptoms continue to get worse over time, your doctor may need to order more tests, or you may wish to get a second opinion.

The physician will test:

- Reflexes.
- Coordination, muscle tone and strength.
- Eye movement.
- Speech.
- Sensation.

The neurological exam may also include a [brain imaging](#) study.

Learn more: [What Is Alzheimer's?](#), [What Is Dementia?](#) and [Types of Dementia](#).

Home screening tests for dementia

A number of dementia screening tests have been marketed directly to consumers. None of these tests have been scientifically proven to be accurate. Furthermore, the tests can have false-positive results, meaning that individuals can have results saying they have dementia when in fact they do not. This is extremely unlikely to happen if the individual visits a physician to seek care and potential diagnosis. For these and other reasons, the Alzheimer's Association believes that home screening tests cannot and should not be used as a substitute for a thorough examination by a skilled doctor. The whole process of assessment and diagnosis should be carried out within the context of an ongoing relationship with a responsible and qualified health care professional.

Mental cognitive status tests

Mental cognitive status testing evaluates memory, thinking and simple problem-solving abilities. Some tests are brief, while others can be more time intensive and complex. More comprehensive mental cognitive status tests are often given by a neuropsychologist to evaluate executive function, judgment, attention and language.

Such tests give an overall sense of whether a person:

- Is aware of symptoms.
- Knows the date, time, and where he or she is.
- Can remember a short list of words, follow instructions and do simple calculations.

Mini-Mental State Exam (MMSE) and the Mini-Cog test

The MMSE and Mini-Cog test are two commonly used assessments.

During the MMSE, a health professional asks a patient a series of questions designed to test a range of everyday mental skills. The maximum MMSE score is 30 points. A score of 20 to 24 suggests mild dementia, 13 to 20 suggests moderate dementia, and less than 12 indicates severe dementia. On average, the MMSE score of a person with Alzheimer's declines about two to four points each year.

During the Mini-Cog, a person is asked to complete two tasks:

1. Remember and a few minutes later repeat the names of three common objects.
2. Draw a face of a clock showing all 12 numbers in the right places and a time specified by the examiner.

The results of this brief test can help a physician determine if further evaluation is needed.

Computerized tests cleared by the FDA

A growing area of research is the development of devices to administer computer-based tests of thinking, learning and memory, called cognitive tests.

The U.S. Food and Drug Administration (FDA) has cleared several computerized cognitive testing devices for marketing. These are the Cantab Mobile, Cognigram, Cognivue, Cognision and Automated Neuropsychological Assessment Metrics (ANAM) devices.

Some physicians use computer-based tests such as these in addition to the MMSE and Mini-Cog. Computerized tests have several advantages, including giving tests exactly the same way each time. Using both clinical tests and computer-based tests can give physicians a clearer understanding of cognitive difficulties experienced by patients.

Depression screen and mood assessment

In addition to assessing mental status, the doctor will evaluate a person's sense of well-being to detect depression or other mood disorders that can cause memory problems, loss of interest in life, and other symptoms that can overlap with dementia.

Genetic testing

Researchers have identified certain genes that increase the risk of developing Alzheimer's and other rare "deterministic" genes that directly cause Alzheimer's. Although genetic tests are available for some of these genes, health professionals do not currently recommend routine genetic testing for Alzheimer's disease.

Risk genes: While there is a blood test for APOE-e4, the strongest risk gene for Alzheimer's, this test is mainly used in clinical trials to identify people at higher risk of developing Alzheimer's. Carrying this gene mutation only indicates a greater risk; it does not indicate whether a person will develop Alzheimer's or whether a person has Alzheimer's. Genetic testing for APOE-e4 is controversial and should only be undertaken after discussion with a physician or genetic counselor.

Deterministic genes: Testing also is available for genes that cause autosomal dominant Alzheimer's disease (ADAD) or "familial Alzheimer's," a rare form of Alzheimer's that accounts for 1 percent or less of all cases. ADAD runs strongly in families and tends to begin earlier in life, sometimes as early as one's 30s. Many people in these families do not wish to know their genetic status, but some get tested to learn whether they will eventually develop the disease. Some ADAD families have joined clinical studies to help researchers better understand Alzheimer's.

Learn more: [Genetic Testing Fact Sheet](#) (PDF) and [Genetics and Alzheimer's](#).

Brain imaging

A standard medical workup for Alzheimer's disease often includes [structural imaging](#) with magnetic resonance imaging (MRI) or computed tomography (CT). These tests are primarily used to rule out other conditions that may cause symptoms similar to Alzheimer's but require different treatment. Structural imaging can reveal tumors, evidence of small or large strokes, damage from severe head trauma, or a buildup of fluid in the brain.

In some circumstances, a doctor may use brain imaging tools to find out if the individual has high levels of beta-amyloid, a hallmark of Alzheimer's; normal levels would suggest Alzheimer's is not the cause of dementia.

Imaging technologies have revolutionized our understanding of the structure and function of the living brain. Researchers are studying other brain imaging techniques so they can better diagnose and track the progress of Alzheimer's.