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Dementia



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Overview

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Dementia describes a group of symptoms affecting memory, thinking and social abilities severely enough to interfere with your daily life. It isn't a specific disease, but several different diseases may cause dementia.

Though dementia generally involves memory loss, memory loss has different causes. Having memory loss alone doesn't mean you have dementia.

Alzheimer's disease is the most common cause of a progressive dementia in older adults, but there are a number of causes of dementia. Depending on the cause, some dementia symptoms may be reversible.

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Symptoms

Dementia symptoms vary depending on the cause, but common signs and symptoms include:

Cognitive changes

- Memory loss, which is usually noticed by a spouse or someone else
- Difficulty communicating or finding words
- Difficulty with visual and spatial abilities, such as getting lost while driving
- Difficulty reasoning or problem-solving
- Difficulty handling complex tasks
- Difficulty with planning and organizing
- Difficulty with coordination and motor functions
- Confusion and disorientation

Psychological changes

- Personality changes
- Depression
- Anxiety
- Inappropriate behavior
- Paranoia
- Agitation
- Hallucinations

When to see a doctor

See a doctor if you or a loved one has memory problems or other dementia symptoms. Some treatable medical conditions can cause dementia symptoms, so it's important to determine the underlying cause.

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Causes

Dementia is caused by damage to or loss of nerve cells and their connections in the brain. Depending on the area of the brain that's affected by the damage, dementia can affect people differently and cause different symptoms.

Dementias are often grouped by what they have in common, such as the protein or proteins deposited in the brain or the part of the brain that's affected. Some diseases look like dementias, such as those caused by a reaction to medications or vitamin deficiencies, and they might improve with treatment.

Progressive dementias

Types of dementias that progress and aren't reversible include:

- **Alzheimer's disease.** Alzheimer's disease is the most common cause of dementia.

Although not all causes of Alzheimer's disease are known, experts do know that a small percentage are related to mutations of three genes, which can be passed down from parent to child. While several different genes are probably involved in Alzheimer's disease, one important gene that increases risk is apolipoprotein E4 (APOE).

Alzheimer's disease patients have plaques and tangles in their brains. Plaques are clumps of a protein called beta-amyloid, and tangles are fibrous tangles made up of tau protein. It's thought that these clumps damage healthy neurons and the fibers connecting them.

Other genetic factors might make it more likely that people will develop Alzheimer's.

- **Vascular dementia.** This second most common type of dementia is caused by damage to the vessels that supply

blood to your brain. Blood vessel problems can cause strokes or damage the brain in other ways, such as by damaging the fibers in the white matter of the brain. The most common symptoms of vascular dementia include difficulties with problem-solving, slowed thinking, focus and organization. These tend to be more noticeable than memory loss.

- **Lewy body dementia.** Lewy bodies are abnormal balloonlike clumps of protein that have been found in the brains of people with Lewy body dementia, Alzheimer's disease and Parkinson's disease. This is one of the more common types of progressive dementia. Common signs and symptoms include acting out one's dreams in sleep, seeing things that aren't there (visual hallucinations), and problems with focus and attention. Other signs include uncoordinated or slow movement, tremors, and rigidity (parkinsonism).
- **Frontotemporal dementia.** This is a group of diseases characterized by the breakdown (degeneration) of nerve cells and their connections in the frontal and temporal lobes of the brain, the areas generally associated with personality, behavior and language. Common symptoms affect behavior, personality, thinking, judgment, and language and movement.
- **Mixed dementia.** Autopsy studies of the brains of people 80 and older who had dementia indicate that many had a combination of several causes, such as Alzheimer's disease, vascular dementia and Lewy body dementia. Studies are ongoing to determine how having mixed dementia affects symptoms and treatments.

Other disorders linked to dementia

- **Huntington's disease.** Caused by a genetic mutation, this disease causes certain nerve cells in your brain and spinal cord to waste away. Signs and symptoms, including a severe decline in thinking (cognitive) skills, usually appear around age 30 or 40.
- **Traumatic brain injury (TBI).** This condition is most often caused by repetitive head trauma. People such as boxers, football players or soldiers might experience TBI.

Depending on the part of the brain that's injured, this

condition can cause dementia signs and symptoms such as depression, explosiveness, memory loss and impaired speech. TBI may also cause parkinsonism. Symptoms might not appear until years after the trauma.

- **Creutzfeldt-Jakob disease.** This rare brain disorder usually occurs in people without known risk factors. This condition might be due to deposits of infectious proteins called prions. Creutzfeldt-Jakob disease usually has no known cause but can be inherited. It may also be caused by exposure to diseased brain or nervous system tissue, such as from a cornea transplant.

Signs and symptoms of this fatal condition usually appear after age 60.

- **Parkinson's disease.** Many people with Parkinson's disease eventually develop dementia symptoms (Parkinson's disease dementia).

Dementia-like conditions that can be reversed

Some causes of dementia or dementia-like symptoms can be reversed with treatment. They include:

- **Infections and immune disorders.** Dementia-like symptoms can result from fever or other side effects of your body's attempt to fight off an infection. Multiple sclerosis and other conditions caused by the body's immune system attacking nerve cells also can cause dementia.
- **Metabolic problems and endocrine abnormalities.** People with thyroid problems, low blood sugar (hypoglycemia), too little or too much sodium or calcium, or problems absorbing vitamin B-12 can develop dementia-like symptoms or other personality changes.
- **Nutritional deficiencies.** Not drinking enough liquids (dehydration); not getting enough thiamin (vitamin B-1), which is common in people with chronic alcoholism; and not getting enough vitamins B-6 and B-12 in your diet can cause dementia-like symptoms. Copper and vitamin E deficiencies also can cause dementia symptoms.

- **Medication side effects.** Side effects of medications, a reaction to a medication or an interaction of several medications can cause dementia-like symptoms.
- **Subdural hematomas.** Bleeding between the surface of the brain and the covering over the brain, which is common in the elderly after a fall, can cause symptoms similar to those of dementia.
- **Poisoning.** Exposure to heavy metals, such as lead, and other poisons, such as pesticides, as well as recreational drug or heavy alcohol use can lead to symptoms of dementia. Symptoms might resolve with treatment.
- **Brain tumors.** Rarely, dementia can result from damage caused by a brain tumor.
- **Anoxia.** This condition, also called hypoxia, occurs when organ tissues aren't getting enough oxygen. Anoxia can occur due to severe sleep apneas, asthma, heart attack, carbon monoxide poisoning or other causes.
- **Normal-pressure hydrocephalus.** This condition, which is caused by enlarged ventricles in the brain, can cause walking problems, urinary difficulty and memory loss.

Risk factors

Many factors can eventually contribute to dementia. Some factors, such as age, can't be changed. Others can be addressed to reduce your risk.

Risk factors that can't be changed

- **Age.** The risk rises as you age, especially after age 65. However, dementia isn't a normal part of aging, and dementia can occur in younger people.
- **Family history.** Having a family history of dementia puts you at greater risk of developing the condition. However, many people with a family history never develop symptoms, and many people without a family history do. There are tests to determine whether you have certain genetic mutations.
- **Down syndrome.** By middle age, many people with Down syndrome develop early-onset Alzheimer's

disease.

Risk factors you can change

You might be able to control the following risk factors for dementia.

- **Diet and exercise.** Research shows that lack of exercise increases the risk of dementia. And while no specific diet is known to reduce dementia risk, research indicates a greater incidence of dementia in people who eat an unhealthy diet compared with those who follow a Mediterranean-style diet rich in produce, whole grains, nuts and seeds.
- **Heavy alcohol use.** If you drink large amounts of alcohol, you might have a higher risk of dementia. While some studies have shown that moderate amounts of alcohol might have a protective effect, results are inconsistent. The relationship between moderate amounts of alcohol and dementia risk isn't well-understood.
- **Cardiovascular risk factors.** These include high blood pressure (hypertension), high cholesterol, buildup of fats in your artery walls (atherosclerosis) and obesity.
- **Depression.** Although not yet well-understood, late-life depression might indicate the development of dementia.
- **Diabetes.** Having diabetes may increase your risk of dementia, especially if it's poorly controlled.
- **Smoking.** Smoking might increase your risk of developing dementia and blood vessel (vascular) diseases.
- **Sleep apnea.** People who snore and have episodes where they frequently stop breathing while asleep may have reversible memory loss.
- **Vitamin and nutritional deficiencies.** Low levels of vitamin D, vitamin B-6, vitamin B-12 and folate may increase your risk of dementia.

Complications

Dementia can affect many body systems and, therefore, the ability to function. Dementia can lead to:

- **Poor nutrition.** Many people with dementia eventually reduce or stop eating, affecting their nutrient intake. Ultimately, they may be unable to chew and swallow.
- **Pneumonia.** Difficulty swallowing increases the risk of choking or aspirating food into the lungs, which can block breathing and cause pneumonia.
- **Inability to perform self-care tasks.** As dementia progresses, it can interfere with bathing, dressing, brushing hair or teeth, using the toilet independently, and taking medications accurately.
- **Personal safety challenges.** Some day-to-day situations can present safety issues for people with dementia, including driving, cooking and walking alone.
- **Death.** Late-stage dementia results in coma and death, often from infection.

Prevention

There's no sure way to prevent dementia, but there are steps you can take that might help. More research is needed, but it might be beneficial to do the following:

- **Keep your mind active.** Mentally stimulating activities, such as reading, solving puzzles and playing word games, and memory training might delay the onset of dementia and decrease its effects.
- **Be physically and socially active.** Physical activity and social interaction might delay the onset of dementia and reduce its symptoms. Move more and aim for 150 minutes of exercise a week.
- **Quit smoking.** Some studies have shown that smoking in middle age and beyond may increase your risk of dementia and blood vessel (vascular) conditions. Quitting smoking might reduce your risk and will improve your health.
- **Get enough vitamins.** Some research suggests that

people with low levels of vitamin D in their blood are more likely to develop Alzheimer's disease and other forms of dementia. You can get vitamin D through certain foods, supplements and sun exposure.

More study is needed before an increase in vitamin D intake is recommended for preventing dementia, but it's a good idea to make sure you get adequate vitamin D.

Taking a daily B-complex vitamin and vitamin C may also be helpful.

- **Manage cardiovascular risk factors.** Treat high blood pressure, high cholesterol, diabetes, and high body mass index (BMI). High blood pressure might lead to a higher risk of some types of dementia. More research is needed to determine whether treating high blood pressure may reduce the risk of dementia.
- **Treat health conditions.** See your doctor for treatment if you experience hearing loss, depression or anxiety.
- **Maintain a healthy diet.** Eating a healthy diet is important for many reasons, but a diet such as the Mediterranean diet — rich in fruits, vegetables, whole grains and omega-3 fatty acids, which are commonly found in certain fish and nuts — might promote health and lower your risk of developing dementia. This type of diet also improves cardiovascular health, which may help lower dementia risk. Try eating fatty fish such as salmon three times a week, and a handful of nuts — especially almonds and walnuts — daily.
- **Get quality sleep.** Practice good sleep hygiene, and talk to your doctor if you snore loudly or have periods where you stop breathing or gasp during sleep.

By Mayo Clinic Staff

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