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Vascular Dementia: Causes, Symptoms, and Treatments

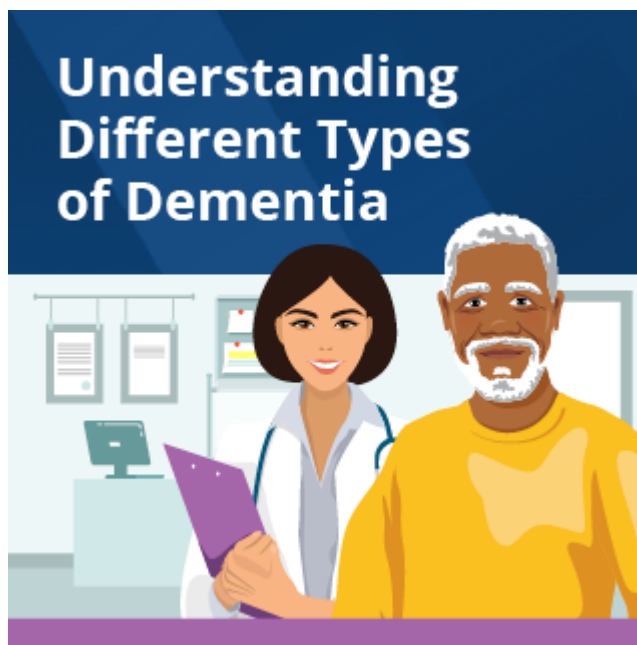
Vascular dementia refers to changes to memory, thinking, and behavior resulting from conditions that affect the blood vessels in the brain. Cognition and brain function can be significantly affected by the size, location, and number of vascular changes.

Symptoms of vascular dementia can begin gradually or can occur suddenly, and then progress over time, with possible short periods of improvement. Vascular dementia can occur alone or be a part of a different diagnosis such as [Alzheimer's disease](#) or other forms of [dementia](#). When an individual is diagnosed with vascular dementia, their symptoms can be similar to the symptoms of Alzheimer's.

What causes vascular dementia?

Vascular dementia is caused by different conditions that interrupt the flow of blood and oxygen supply to the brain and damage blood vessels in the brain.

People with vascular dementia almost always have abnormalities in the brain that can be seen on MRI scans. These abnormalities can include evidence of prior [strokes](#), which are often small and sometimes without noticeable symptoms. Major strokes can also increase the risk for dementia, but not everyone who has had a stroke will develop dementia.



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Other abnormalities commonly found in the brains of people with vascular dementia are diseased small blood vessels and changes in "white matter" — the connecting "wires" of the brain that are critical for relaying messages between brain regions.

Researchers are investigating how these changes in the brain — and their underlying causes — are involved in the onset and progression of dementia. Research has shown a strong link between cardiovascular disease, involving the heart and blood vessels, and cerebrovascular disease, involving the brain, and subsequent cognitive impairment and dementia. This area of research is referred to as "vascular contributions to cognitive impairment and dementia," or VCID. It is helping researchers better understand this connection and whether the methods used to prevent and treat cerebrovascular disease and heart disease could also help prevent dementia. Researchers investigating VCID are exploring diverse conditions that affect blood flow to and within the brain, including infarcts (an area of dead tissue resulting from a lack of blood supply), hemorrhages (bleeding from ruptured or damaged blood vessels), cerebral hypoperfusion (reduced blood flow), and small vessel disease in the brain such as that thought to be associated with white matter hyperintensities (white patches seen on brain MRI scans), and stroke.



Clinical trials on vascular dementia

Volunteers are needed for clinical trials that are testing ways to prevent and treat vascular dementia. By joining one of these studies, you may help scientists learn about different conditions that affect blood flow to the brain and contribute useful information to help other older adults in the future.

Find clinical trials near you

What are the symptoms of vascular dementia?

People with vascular dementia may experience:

- Difficulty performing tasks that used to be easy, such as paying bills
- Trouble following instructions or learning new information and routines
- Forgetting current or past events
- Misplacing items
- Getting lost on familiar routes

- Problems with language, such as finding the right word or using the wrong word
- Changes in sleep patterns
- Difficulty reading and writing
- Loss of interest in things or people
- Changes in personality, behavior, and mood, such as depression, agitation, and anger
- Hallucinations or delusions (believing something is real that is not)
- Poor judgment and loss of ability to perceive danger

How is vascular dementia treated?

Because many different disease processes can result in different forms of vascular dementia, there may not be one treatment for all. However, vascular dementia is often managed with medications to prevent strokes and reduce the risk of additional brain damage. Some [studies](#) suggest that medications that are used to treat Alzheimer's might benefit some people with an early form of vascular dementia. Treating modifiable risk factors like [high blood pressure](#), [diabetes](#), high cholesterol, and problems with the rhythm of the heartbeat can help prevent additional stroke. Living a healthy lifestyle is important to help [reduce the risk factors](#) of vascular dementia.

Resource list: Vascular dementias and related conditions

People with vascular dementia and their family members can face a variety of challenges. Learning more about these disorders can help. These free resources are a place to start.

- [***The Dementias: Hope Through Research***](#). This booklet from NIA and the National Institute of Neurological Disorders and Stroke (NINDS) describes different kinds of dementia, including vascular dementia, and summarizes dementia research supported by NIH. Also [available online](#).
- [***What Is Vascular Dementia?***](#) This Alzheimers.gov article has information about vascular dementia causes, symptoms, diagnosis, treatment, and other resources.
- [***Vascular Dementia***](#). This article from MedlinePlus lists risk factors for vascular dementia, symptoms, diagnosis, treatment, prognosis, possible complications, and prevention.

- [**Vascular Dementia Health Topic**](#). This overview from the National Heart, Lung, and Blood Institute (NHLBI) on vascular dementia links to more information on clinical trials and related health topics.
- [**Multi-Infarct Dementia Information Page**](#). This NINDS webpage provides an overview of vascular dementia caused by multiple, often “silent,” strokes.
- [**Cerebral Autosomal Dominant Arteriopathy With Subcortical Infarcts and Leukoencephalopathy**](#). This webpage from MedlinePlus answers questions about CADASIL, a rare inherited disorder that affects the small blood vessels, which reduces the flow of blood to the brain, and leads to vascular dementia.
- [**CADASIL**](#). This CADASIL information from the Genetic and Rare Diseases Information Center (GARD) includes help finding a specialist and support from organizations.
- [**CADASIL Information Page**](#). This NINDS webpage describes CADASIL, its symptoms, timing of disease onset, and treatment of symptoms, plus links to clinical trials.
- [**Binswanger’s Disease**](#). This GARD webpage provides information about Binswanger’s disease (also called subcortical vascular dementia), which involves thickening and narrowing blood vessels, known as “hardening of the arteries.” This leads to decreases in blood supply to brain tissue and causes damage to white matter.
- [**Binswanger’s Disease Information Page**](#). This Binswanger’s disease overview from NINDS provides symptoms, treatment of symptoms, and ways to possibly slow disease progression.

- **[Cerebral Amyloid Angiopathy](#)**. This MedlinePlus article describes cerebral amyloid angiopathy, a condition in which proteins build up in the walls of blood vessels in the brain, increasing the risk for stroke and dementia.

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For more information about vascular dementia

NIA Alzheimer's and related Dementias Education and Referral (ADEAR) Center

800-438-4380

adear@nia.nih.gov

www.nia.nih.gov/alzheimers

The NIA ADEAR Center offers information and free print publications about Alzheimer's and related dementias for families, caregivers, and health professionals. ADEAR Center staff answer telephone, email, and written requests and make referrals to local and national resources.

Alzheimers.gov

www.alzheimers.gov

Explore the Alzheimers.gov website for information and resources on Alzheimer's and related dementias from across the federal government.

National Institute of Neurological Disorders and Stroke (NINDS)

800-352-9424

braininfo@ninds.nih.gov

www.ninds.nih.gov

MedlinePlus

National Library of Medicine

www.medlineplus.gov

Mayo Clinic

www.mayoclinic.org/patient-care-and-health-information

This content is provided by the NIH National Institute on Aging (NIA). NIA scientists and other experts review this content to ensure it is accurate and up to date.

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