

Vascular changes linked to dementia

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The same artery-clogging process (atherosclerosis) that causes heart disease can also result in age-related vascular cognitive impairments (VCI), according to a new American Heart Association/American Stroke Association scientific statement published online in *Stroke: Journal of the American Heart Association*.

Cognitive impairment, also known as dementia, includes difficulty with thinking, reasoning and memory, and can be caused by vascular disease, Alzheimer's disease, a combination of both and other causes.

Atherosclerosis is a build-up of plaque in the arteries associated with elevated [blood pressure](#), cholesterol, smoking and other risk factors. When it restricts or blocks blood flow to the brain, it is called cerebrovascular disease, which can result in vascular cognitive impairment. Alzheimer's disease is a progressive brain disorder that damages and destroys [brain cells](#).

"We have learned that cerebrovascular disease and Alzheimer's disease may work together to cause cognitive impairment and the mixed disorder may be the most common type of dementia in older persons," said Philip B. Gorelick, M.D., M.P.H., co-chair of the writing group for the statement and director of the Center for Stroke Research at the University of Illinois College of Medicine at Chicago.

The prevalence of dementia increases with advancing age and affects about 30 percent of people over 80 years of age, costing more than \$40,000 per patient annually in the United States, according to the

statement authors.

Treating [risk factors for heart disease](#) and stroke with [lifestyle changes](#) and medical management may prevent or slow the development of dementia in some people, Gorelick said. Physical activity, healthy diet, healthy body weight, tobacco avoidance as well as blood pressure and cholesterol management could significantly help many people maintain their [mental abilities](#) as they age.

"Generally speaking, what is good for the heart is good for the brain," Gorelick said. "Although it is not definitely proven yet, treatment or prevention of major risk factors for stroke and heart disease may prove to also preserve cognitive function with age."

Understanding common causes of late-life cognitive impairment and dementia has advanced and many of the traditional risk factors for stroke also are risk markers for Alzheimer's disease and vascular cognitive impairment. For example:

- Reducing high blood pressure is recommended to reduce the risk of vascular cognitive impairment. High blood pressure in mid-life may be an important risk factor for cognitive decline later in life.
- Controlling high cholesterol and abnormal blood sugar may also help reduce the risk of vascular cognitive impairment, although more study is needed to confirm the role of these interventions.
- Smoking cessation could lessen the risk of vascular cognitive impairment.
- Increasing physical exercise, consuming a moderate level of

alcohol (i.e., up to 2 drinks for men and 1 drink for non-pregnant women) for those who currently consume alcohol; and maintaining a healthy weight may also lessen the risk of VCI, but more study is needed to confirm usefulness.

- Taking B vitamins or anti-oxidant supplements, however, does not prevent vascular cognitive impairment, [heart disease](#) or stroke.

Identifying people at risk for cognitive impairment is a promising strategy for preventing or postponing [dementia](#) and for public health cost savings, the writers said. "We encourage clinicians to use screening tools to detect cognitive impairment in their older patients and continue to treat vascular risks according to nationally- or regionally-accepted guidelines."

Vascular cognitive impairment is most obvious after a stroke, but there could be cognitive repercussions from small strokes, microbleeds or areas of diminished blood flow in the brain that cause no obvious neurological symptoms, according to the statement.

In many cases, the risk factors for vascular [cognitive impairment](#) are the same as for stroke, including high blood pressure, high cholesterol, abnormalities in heart rhythm and diabetes.

Provided by American Heart Association

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