

# Smokers are more likely to develop dementia

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People who smoke are more likely to develop Alzheimer's disease or dementia than nonsmokers or those who smoked in the past, according to a study published in the September 4, 2007, issue of *Neurology*.

The study followed nearly 7,000 people age 55 and older for an average of seven years. Over that time, 706 of the participants developed dementia. People who were current smokers at the time of the study were 50 percent more likely to develop dementia than people who had never smoked or past smokers.

Smoking could affect the risk of dementia through several mechanisms, according to study author Monique Breteler, MD, PhD, of Erasmus Medical Center in Rotterdam, the Netherlands, and member of the American Academy of Neurology.

“Smoking increases the risk of cerebrovascular disease, which is also tied to dementia,” Breteler said. “Another mechanism could be through oxidative stress, which can damage cells in the blood vessels and lead to hardening of the arteries. Smokers experience greater oxidative stress than nonsmokers, and increased oxidative stress is also seen in Alzheimer's disease.”

Oxidative stress occurs when the body has too many free radicals, which are waste products produced by chemical reactions in the body.

“Antioxidants in the diet can eliminate free radicals, and studies have shown that smokers have fewer antioxidants in their diets than

nonsmokers,” Breteler said.

The researchers also looked into how smoking affects the risk of developing Alzheimer’s disease for people who have the gene that increases the risk of Alzheimer’s, called apolipoprotein E4, or APOE $\epsilon$ 4. They found that smoking did not increase the risk of Alzheimer’s for those with the APOE $\epsilon$ 4 gene. But for those without the APOE $\epsilon$ 4 gene, smoking increased the risk of Alzheimer’s. Current smokers without the Alzheimer’s gene were nearly 70 percent more likely to develop Alzheimer’s than nonsmokers or past smokers without the Alzheimer’s gene.

Source: American Academy of Neurology

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