

Can Nose Picking Raise the Risk of Alzheimer's and Dementia?

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✓ Fact Checked

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STORY AT-A-GLANCE

- › Surveys show that most people pick their nose, which researchers have found increases the risk of *Chlamydia pneumoniae* traveling along the olfactory nerve to the brain in an animal model
- › The brain cells responded by depositing amyloid beta protein, known as a hallmark of Alzheimer's disease. Researchers are now investigating if the same pathway exists in humans
- › For some people, nose picking can affect their social behavior; chronic picking can promote the spread of disease, trigger nosebleeds or sores and can damage the nasal cavity
- › Other factors that increase your risk of Alzheimer's disease include sugar or a high carbohydrate diet, gut dysbiosis, low cholesterol levels, anticholinergic drugs, air pollution and vitamin B deficiencies

Whether you admit it to anyone else or not, most people pick their noses.¹ A study published in 2022 in *Scientific Reports*² found an association between nose-picking and a higher risk of Alzheimer's disease. Nose picking is common in other primates as well. In 2015, a photographer captured a picture of a bearded capuchin monkey using a tool to pick her nose at a national park in Brazil.³

It was the first time that researchers had noted a female monkey using a tool for anything, so they were quite surprised when she used it to pick her nose multiple times. Children frequently pick their noses in public, but the social stigma is so widespread that most adults do not.

The nasal cavity has its own microbiome to provide the body with natural protection.⁴ Your nose also secretes mucus that helps to trap dust, allergens and microbes. Evidence has shown that picking your nose increases the risk you'll spread pathogens to yourself and others.

One paper⁵ notes that the anterior nares of up to 80% of people are colonized with staphylococcus aureus. This bacterium is known to be a factor in skin diseases and acne, and the spread from nose picking to the face may be an overlooked element in acne.

The featured study⁶ also links a bacterium with infection in the central nervous system, which researchers believe ultimately contributes to a higher risk of Alzheimer's disease. According to the Alzheimer's Association,⁷ in 2022 there are an estimated 6.5 million people in the U.S. aged 65 and older living with Alzheimer's dementia. They estimate this number could grow to 13.8 million by 2060.

Currently, experts estimate that Alzheimer's disease kills more people than prostate cancer and breast cancer combined and in 2020 COVID-19 increased the risk of death in Alzheimer's and dementia patients by 17%. The public health cost reached \$321 billion in 2022 and is estimated to reach roughly \$1 trillion by 2050.⁸

Nose Picking May Raise Your Risk for Alzheimer's and Dementia

The researchers used an animal model⁹ to demonstrate that Chlamydia pneumoniae can reach the brain by traveling along the olfactory nerve. They found the brain cells in the mice then began depositing amyloid beta protein, which is a known hallmark of Alzheimer's disease.

James St John, Ph.D., is head of the Clem Jones Centre for Neurobiology and Stem Cell Research at Griffith University and co-writer of the study, which is the first to show that *Chlamydia pneumoniae* can travel up the nose and into the brain.

The researchers noted that the olfactory nerve is a short pathway to the brain in mice and, interestingly, bypasses the blood brain barrier. Before the data can be generalized to humans, the team must prove that humans have the same pathway, and that bacteria and viruses can use it the same way.

Based on the current data, St John recommends people take steps to lower their risk of late-onset Alzheimer's disease. One step he advises is to avoid picking your nose or plucking hair inside the nasal cavity. Both activities can damage the mucosal lining and allow bacteria or viruses access.¹⁰

Other Reasons You Want to Stop Picking

Nose picking is a little bit like picking a scab or popping a pimple. Some believe that these grooming behaviors become more prominent when a person is stressed or anxious or when they're bored.¹¹ While nose picking is socially unacceptable, skin picking is slightly less problematic in public.

Skin picking has been documented since the 19th century and data suggest it is as common as other psychiatric disorders.¹² The medical term to describe nose picking is rhinotillexomania. An early study¹³ of nose-picking behavior was undertaken in 1995 using a survey of 1,000 adults in Dane County, Wisconsin.

Only 25% responded to the survey, but of those 254 people, 91% said they pick their nose and 75% of those felt nearly everyone does it. The researchers believed it was the first population survey that addressed nose picking and for the majority who responded, it was not a pathological condition.

Of the respondents, 1.2% reported they pick their nose at least every hour and two people said that it created marked to moderate interference in their daily functioning. Potential problems people experience includes infections in the nose when fingernails

leave cuts in the nasal tissue. People who routinely pick their noses may also spread illness, damage their nasal cavity, or cause mucosal damage that triggers nosebleeds or sores.

Another study¹⁴ published in 2001 asked 200 adolescents about their nose-picking habits. They found that 7.6% of the subjects reported picking their noses more than 20 times per day and nearly 17% wondered if they had a nose-picking problem. The researchers concluded that while nose picking is common in adolescents, it can also be associated with other habitual behaviors and may merit closer epidemiological scrutiny.

The BBC¹⁵ reported on the same study, recording that of those who answered the survey, 13 subjects used tweezers to pick their nose and nine used pencils. There were gender differences, with boys more prone to picking their noses and girls inclined to believe it was a bad habit. Chronic nose picking can also lead to perforation of the nasal septum that requires surgical repair.

More Factors That Increase Your Risk of Alzheimer's

The featured study suggests that picking your nose can increase the risk of bacteria traveling along the olfactory nerve and into the brain, thus increasing your risk of Alzheimer's disease and other dementias. In addition to this socially unacceptable habit, there are other environmental and lifestyle choices that can increase your risk of developing Alzheimer's.

Sugar — For many years I have warned about the dangers of eating foods high in processed sugars or high carbohydrate foods that elevate your blood sugar. One of the most striking studies on the relationship between carbohydrates and brain health was published in 2012 in the Journal of Alzheimer's Disease.¹⁶

The data showed that eating a high carbohydrate diet can increase your risk of dementia by 89%, **while eating a high fat diet lowered it by 44%**. Other studies have strongly suggested that Alzheimer's is connected to insulin resistance¹⁷ and even mild elevation of blood sugar is associated with an elevated risk of dementia.¹⁸

Gut microbiome – Researchers have also found a significant link between Alzheimer's and your gut microbiome. One study¹⁹ of 89 people between the ages of 65 and 85 years revealed lipopolysaccharides and the short-chain fatty acids (SCFAs) acetate and valerate were associated with amyloid deposits in the brain. Other SCFAs, namely butyrate, appeared to have a protective effect; high levels of butyrate were associated with less amyloid.

"Our results are indisputable: Certain bacterial products of the intestinal microbiota are correlated with the quantity of amyloid plaques in the brain," explains Moira Marizzoni, a study author with the Fatebenefratelli Center in Brescia, Italy.²⁰ The researchers believe this proves an association between proteins in the gut microbiota and amyloidosis in the brain.

Cholesterol – While cholesterol has been vilified as something that should be as low as possible to prevent heart disease, it is a crucial component for good health, and levels that are too low can have serious repercussions.

According to senior research scientist Stephanie Seneff, Ph.D., insufficient fat and cholesterol in the brain plays a crucial role in the Alzheimer's disease process. She details the mechanism of this dysfunction in her 2009 paper²¹ "APOE-4: The Clue to Why Low Fat Diet and Statins May Cause Alzheimer's."

A 2014 study²² found cholesterol plays an important role and individuals with higher levels of HDL and lower levels of LDL had a reduced risk for amyloid plaque deposits. A 2018 study²³ came to a similar conclusion, finding those with higher total cholesterol at midlife had a reduced risk for cognitive decline after age 85.

However, they also found when cholesterol levels increase between midlife and late life, those individuals were at an increased risk. This suggests there are other unknown variables at play as well.

Anticholinergic drugs – Data show "there were statistically significant associations of dementia risk with exposure to anticholinergic antidepressants, anti-Parkinson's

drugs, antipsychotic drugs, bladder antimuscarinics and antiepileptic drugs."²⁴

B vitamin deficiencies — Evidence suggests that some deficiencies may also lead to brain shrinkage and Alzheimer's disease. B vitamin deficiencies are known to produce symptoms of psychiatric disorders, including depression,²⁵ and they play an important role in cognitive decline and the development of dementia.²⁶

Air pollution — Evidence has also linked exposure to air pollution in the U.S. and Europe with an increased risk of dementia, including Alzheimer's disease. One 10-year study presented at the Alzheimer's Association International Conference 2021²⁷ showed women living in areas of lower air pollution had a slower decline in overall memory and cognitive function.

FDA Fast Tracked a Vaccine for Alzheimer's Disease

Since the fast-tracked COVID-19 vaccine worked so well, the FDA has approved yet another fast-tracked vaccine, this time aimed at Alzheimer's. The shot — UB-311 — was developed by the biotechnology company Vaxxinity, which reportedly treats Alzheimer's by targeting aggregated amyloid beta.²⁸

However, as the evidence has demonstrated, Alzheimer's is a multifactorial and complex condition and researchers are unsure if the amyloid beta is a symptom of Alzheimer's or the cause. Thus, fast-tracking a vaccine that targets an isolated element of the disease, which may not be the underlying cause, is destined to be a massive disaster. The company has completed Phase 1, Phase 2a and Phase 2a long-term extension trials.

They report the results of these showed the drug was well tolerated in patients with mild to moderate disease over a three-year period and that there were no cases of amyloid-related imaging abnormalities edema (ARIA-E) in the main study, which is a marker of fluid retention and microhemorrhages in the brain that happens in about one-third of people taking the Alzheimer drug aducanumab (brand name Aduhelm).²⁹

Vaxxinity believes no cases of ARIA-E are a success, yet it is impossible to know or understand the long-term consequences of the drug. It is also worth noting that developing drugs for Alzheimer's has thus far been a dismal failure, with at least 300 failed trials to date.³⁰

Strategies to Help You Stop Picking Your Nose

There are several strategies you can use to help stop picking your nose. It's helpful if you can identify what prompts the behavior. Sometimes low humidity, such as during the winter months or when the air conditioner is on, can dry out your nasal passages and your mucus. Consider a spritz with normal saline to help restore the moisture. A humidifier in your home can also help improve the natural moisture level.

Another way to clean your nasal passages and improve the moisture level is a saline nasal wash. These can also help with seasonal allergies as it rinses out pollen and other allergens that increase the production of mucus.

If you find yourself unconsciously beginning to pick your nose, consider using a bandage over your dominant picking finger. The awkward shape of the bandage will remind you not to pick your nose. Keep the bandage in place as long as needed to help retrain the behavior.

Nose picking is sometimes a momentary response to chronic stress or anxiety. Instead, consider using other stress-relieving strategies when you notice your anxiety level going up or you begin picking your nose. Soothing music, deep breathing exercises, a stress ball, or other activities that keep your hands busy can help reduce the activity.

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