

Sinus disease symptoms improve 10 years after patients quit smoking

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Dr. Ahmad Sedaghat examines a patient. Credit: Garyfallia Pagonis for Massachusetts Eye and Ear

Patients with chronic rhinosinusitis (CRS) who quit smoking will see their condition improve over a period of about 10 years, according to the results of a new study led by the Sinus Center at Mass. Eye and Ear. The study, published online today in *Otolaryngology - Head and Neck Surgery*, is not only the first to quantify the severity of symptoms and quality-of-life impact of smoking on CRS patients, but also estimates the timeline of reversal of the smoking effects on the sinuses after cessation for the first time. The findings may provide better motivation for patients suffering from chronic sinus disease to break the habit.

"Our study looked at clinically-meaningful metrics associated with CRS, measuring how bad symptoms are and how much medication was needed," said senior author Ahmad R. Sedaghat, M.D., Ph.D., a sinus surgeon at Mass. Eye and Ear and assistant professor of otolaryngology at Harvard Medical School. "We very consistently saw that all of our metrics for the severity of CRS decreased to the levels of nonsmoking CRS [patients](#) over about 10 years, with the severity of symptoms, medication usage and quality-of-life improving steadily over that timeframe."

One of the more prevalent chronic illnesses in the United States, CRS has been known to cause significant quality-of-life detriments to affected patients, who often cannot breathe or sleep easily due to obstructed nasal and sinus passages.

Previous studies have shown that smoking is harmful to the sinuses. It changes the lining of the nose, making the sinuses unable to clear mucus as well as that of a nonsmoker. It also serves as an irritant contributing to swelling and inflammation, and there is evidence that the healthy bacterial microbiome inside the nose changes with smoking as well.

With the goal of better understanding how smoking exacerbates clinical symptoms and impacts quality-of-life in CRS patients—such as

difficulty breathing through the nose, disturbances of sleep, ear and facial pain and emotional function—the researchers measured [symptom](#) severity and medication usage over time in 103 former-smoker and 103 non-smoker CRS patients. Compared to non-smokers, smokers expressed overall worse symptoms on every measure and reported using more CRS-related antibiotics and oral corticosteroids (used to reduce inflammation in sinus disease).

On a positive note, in former smokers, the researchers noted that every year without smoking was associated with a statistically significant improvement in symptoms and reduced medication usage. Based on the differences in study outcome measures between former smokers and non-smokers, the researchers estimate that the reversible impacts of smoking on CRS may resolve after 10 years.

The researchers believe that the data will be helpful in counseling sinus disease patients not to smoke, and may provide better motivation for quitting.

"If patients tell me that they are smoking, I now have direct evidence to say that the same symptoms that are making them miserable are exacerbated further by smoking," Dr. Sedaghat said. "On the other hand, we can also be optimistic, because we have evidence to suggest that if you quit [smoking](#), things will get better—on the order of 10 years."

More information: *Otolaryngology - Head and Neck Surgery*, [DOI: 10.1177/0194599817717960](https://doi.org/10.1177/0194599817717960)

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