

Sensory scientists encourage smell checks to fight COVID-19 spread

October 12 2020, by Chuck Gill



Penn State sensory scientists are encouraging people to do a daily smell test — using something as simple as their morning coffee — to check for anosmia, or loss of smell, which research indicates is a common symptom of COVID-19. Credit: Ketut Subiyanto via Pexels

With mounting scientific evidence that anosmia, or loss of smell, is one

of the most specific symptoms of COVID-19 infection, sensory scientists in Penn State's College of Agricultural Sciences have launched a webpage to encourage people to perform a daily smell test in an effort to help nip disease spread in the bud.

"In many COVID-19 cases worldwide, patients have reported an abrupt and unexplained loss of [smell](#) and taste—sometimes in the absence of, or before, other symptoms such as fever, dry cough, shortness of breath, aches and fatigue," said John Hayes, professor of food science and director of the Penn State Sensory Evaluation Center.

"A growing body of research suggests that half to three quarters of people who become infected lose their sense of smell, either partially or completely," he said. "Checking for sudden smell loss should help identify otherwise asymptomatic people more quickly, allowing them to self-isolate and consult a medical professional about testing."

Hayes explained that researchers have found that certain cells at the top of the nasal cavity harbor proteins that the coronavirus targets when invading these cells. The local disruption that occurs is different from the [loss of smell](#) that occurs with the common cold, which is due to blockage of the nasal passages. With COVID-19, many patients lose the ability to smell without being stuffy or congested.

To raise awareness of anosmia as a COVID-19 symptom, Hayes and colleague Alyssa Bakke, staff sensory scientist in the Department of Food Science, spearheaded the development of the "[Stop. Smell. Be Well.](#)" webpage, which urges page visitors to make smell checks part of their daily routine. The page suggests that people can use their morning coffee, food, flowers, perfume, shampoo, deodorant or any other familiar aroma to monitor their ability to smell.

The page lists other symptoms associated with COVID-19, provides

links to other Penn State resources and points readers to related news stories. Visitors also can learn about the science behind how the virus attacks the sense of smell.

Hayes and Bakke, who holds a doctorate in food science, are members of an international research team, the Global Consortium for Chemosensory Research, that has studied the link between COVID-19 and smell loss. Collaborating with more than 600 clinicians, scientists and patient advocates in 40 countries in an ongoing study, the Penn State researchers so far have surveyed more than 40,000 participants who suffered from recent respiratory illness.

"Our results showed that of all common symptoms of COVID-19, sudden smell loss was the single best predictor of being positive for the disease," Hayes said. "Other studies are finding similar results. Together, this suggests that sudden smell loss is a better predictor than fever or cough."

In addition to the webpage, Hayes and Bakke are developing peel-and-sniff cards that will be distributed to the Penn State community in the near future to supplement other COVID-19 testing and surveillance efforts. Details around distribution and deployment of these cards will be announced in the coming weeks.

In the meantime, Hayes contends, greater public awareness of the link between COVID-19 and sudden smell loss could assist in identifying pre-symptomatic or otherwise asymptomatic individuals, which might help contain the virus and ease the burden on sometimes-overwhelmed health care facilities.

"Due to the ease of a daily sniff check and the no-cost nature of self-monitoring, we are optimistic that smell checks will become an [effective public health tool](#) that can be used to predict COVID-19 infection and

help mitigate its spread," he said.

More information: Denis Pierron et al. Self-reported smell and taste changes are early indicators of the COVID-19 pandemic and of the effectiveness of political decisions. [DOI: 10.31219/osf.io/n4p3w](https://doi.org/10.31219/osf.io/n4p3w)

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