

Cannabis use tied to head and neck cancer

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A study from the USC Head and Neck Center, part of Keck Medicine of USC and the USC Caruso Department of Otolaryngology—Head and Neck Surgery, suggests that cannabis, the most commonly used illicit substance worldwide, is associated with an increased occurrence of head and neck cancer.

A large, multicenter [study](#) published in *JAMA Otolaryngology—Head & Neck Surgery* revealed that adults with [cannabis dependence](#), known as cannabis use disorder, are 3.5 to 5 times more likely to develop head and [neck cancer](#) than those who do not use the substance.

"This is one of the first studies—and the largest that we know of to date—to associate head and neck cancer with cannabis use," said Niels Kokot, MD, a head and neck surgeon with the USC Head and Neck Center and senior author of the study. "The detection of this risk factor is important because head and neck cancer may be preventable once people know which behaviors increase their risk."

Kokot is also a professor of otolaryngology—head and [neck surgery](#) at the Keck School of Medicine of USC.

Head and neck cancer, the sixth most common cancer in the world, includes several cancers, including cancer of the mouth, pharynx, larynx, oropharynx (tongue and tonsils and back wall of the throat) and adjacent salivary glands.

The researchers, including lead study author Tyler Gallagher, an MD/MPH candidate at the Keck School, discovered that those with cannabis use disorder had higher rates of all types of head and neck cancers. They also found that the prevalence of head and neck cancer among those with [cannabis use disorder](#) was independent of other factors, such as age, gender and ethnicity. Alcohol and [tobacco use](#), which have been associated with head and neck cancer, also did not play a role in the findings.

Kokot and his fellow researchers hypothesize that the primary reason cannabis raises the risk of head and neck cancer is because of the damaging effect of the smoke. Cannabis is primarily consumed through inhalation (even though the study did not distinguish between methods of

consumption).

Additionally, research has shown that tobacco smoke contains numerous chemicals that cause DNA damage and inflammation to the area, which, if unchecked, can lead to cancer, and they speculate that cannabis smoke may cause similar harm.

In fact, there is some evidence, Kokot theorizes, that the smoke from cannabis may even be worse than [tobacco smoke](#).

"Cannabis smoking is typically unfiltered and involves deeper inhalation compared to tobacco," he said. "Additionally, cannabis burns at a higher temperature than tobacco, increasing the risk of cancer-causing inflammation."

Kokot would like to see further research examining the link between cannabis and head and neck cancer. In the meantime, he hopes this study will help people make more informed choices and raise awareness about the link between head and neck cancer and cannabis use.

To reach their conclusions, the researchers compiled 20 years of data through a health research network of 64 health care organizations that accounted for more than 90 million individuals. They tracked cancer cases from one to five years of cannabis use.

More information: Gallagher, T.J. et al. Cannabis Use and Head and Neck Cancer, *JAMA Otolaryngology–Head & Neck Surgery* (2024). [DOI: 10.1001/jamaoto.2024.2419](https://doi.org/10.1001/jamaoto.2024.2419)

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