

Smokers' bitter taste buds may be on the fritz

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Smokers and those who have quit cannot fully appreciate the full flavor of a cup of coffee, because many cannot taste the bitterness of their regular caffeine kick. This is the finding of a study led by Nelly Jacob of the Pitié-Salpêtrière Hospital APHP in France, published in Springer's journal *Chemosensory Perception*.

It is already known that smoking, and especially the toxic chemicals in tobacco, causes a loss of taste among smokers. It also causes structural changes to the fungiform papillae of the tongue where the [taste buds](#) are located. However, it is not yet known whether the full taste range returns to normal once a person quits smoking, or how long it takes.

To extend knowledge on the matter, Jacob and her colleagues therefore tested the ability of 451 staff from Parisian hospitals to recognize the four basic tastes of sweet, sour, bitter and salty, as well as the intensity of each taste. The participants were grouped into smokers, non-smokers and people who had quit smoking. The voluntary tests were conducted over the course of three consecutive "World No-Tobacco Days."

It was found that [smoking status](#) had no influence on a person's ability to recognize salty, sweet or sour tastes. It did however have an effect on people's ability to taste the bitter taste of caffeine. The bitter receptors in the tongue are generally able to detect this taste in very low concentrations. However, one in every five smokers (19.8 percent) could not correctly recognize the taste, while the same happened one in every four times (26.5 percent) that former smokers were put to the test. Only 13.4 percent of non-[smokers](#) could not correctly identify the bitter

samples they were asked to taste.

The researchers believe that the accumulation in the body of some tobacco or combustion products may hamper the regeneration of taste buds, and therefore still impair a person's ability to recognize certain tastes even after they have stopped smoking.

"We consider that the perception of [bitter taste](#) should be examined more closely, both as a tool for [smoking cessation](#) or for preventing smoking initiation. More generally, it should be worthwhile to consider the role of chemosensory perceptions in [smoking](#) behavior." says Jacob.

More information: Jacob, N. et al (2014). Differential perception of caffeine bitter taste depending on smoking status, *Chemosensory Perception*. [DOI: 10.1007/s12078-014-9164-5](https://doi.org/10.1007/s12078-014-9164-5)

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