

# What Your Body Odors Can Tell You About Your State of Health

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## STORY AT-A-GLANCE

- › Your sense of smell can be essential in determining if you are dealing with a health condition as, apparently, some diseases can be “sniffed out”
- › Using a person’s odor to diagnose certain health conditions dates back to ancient times. Many centuries ago, doctors could take a whiff of a patient’s breath and determine if they had liver failure; a fruity odor may indicate diabetes
- › Most people blame sweat when their armpits become smelly when, in fact, bad body odor develops when the microbiome in your underarms is disrupted
- › Abstaining from using harsh soaps, deodorants and antiperspirants will help bring back the balance of good microbes in your armpits and help you stay odor-free

Many symptoms of illness can be seen with the naked eye. If you notice a sudden change in your body, like the appearance of rashes or other skin markings, or rapid fluctuations in weight, it warrants a trip to the doctor to get a proper diagnosis.

But did you know that in some instances, you can also smell disease? Your sense of smell is integral to your well-being, and it has an intricate link to your ability to taste, emotions, memories, and even sexual attraction. Incredibly, it can also be essential in determining if you are dealing with a health condition as, apparently, some diseases can be “sniffed out.”

# Illnesses Can Cause You to Smell a Certain Way

An article published in *The Conversation* explores the connection between the odors your body emits and your state of health. Aoife Morrin, an associate professor at the Dublin City University, writes:<sup>1</sup>

*"Hundreds of chemicals stream from our bodies into the air every second. These chemicals release into the air easily as they have high vapor pressures, meaning they boil and turn into gases at room temperature."*

These gaseous chemicals are called volatile organic chemicals (VOCs). In 1971, Linus Pauling, a chemist who was awarded the Nobel Prize in Chemistry, identified 250 different VOCs in a person's breath.<sup>2</sup> Since his discovery, scientists have discovered<sup>3</sup> hundreds more of these VOCs.

The article notes that some VOCs have distinct odors, but others do not. But whether or not they emit odor that can be picked up by human noses, they can reveal information about your current state of health.<sup>4</sup>

## Ancient Doctors Relied on Body Odor to Diagnose Patients

Inside your nasal passages are two patches of cells designed to detect odors. They are made up of nearly 6 million olfactory receptor cells that allow you to detect and differentiate thousands of different scents and, apparently, these include scents caused by certain diseases.

Interestingly, using a person's odor to diagnose certain health conditions dates back to ancient times. Many centuries ago, doctors did not yet have access to sophisticated medical equipment and screening tests, so they had to rely on the limited tools they had, and one was their ability to smell.

According to the article,<sup>5</sup> ancient physicians could take a whiff of a patient's breath and determine if they had liver failure. A fruity odor may indicate diabetes, and is believed to occur because sugar isn't being properly digested in the gut.

Even today, experts agree that sickness has a smell; researchers<sup>6,7</sup> have described several scents related to diseases. For example, someone with typhoid fever may emit an odor similar to baked bread, while a person with yellow fever could smell like a butcher's shop. If you are unable to metabolize methionine, an amino acid, your body may release an odor similar to boiled cabbage.<sup>8</sup>

## Where Else Do VOCs Come From?

The smell coming from your body emanates from a variety of different areas, not just sweat or your breath. Morrin mentions this in the article,<sup>9</sup> saying that VOCs are also emitted through your urine and feces.

In the skin, VOCs are a result of the waste elimination process. They are excreted through the millions of glands on your skin that are eliminating metabolic waste from within your body, as well as bacteria and other microbes that thrive on your skin.

*"Sweating produces extra nutrients for these bacteria to metabolize, which can result in particularly odorous VOCs. Odor from sweat only makes up a fraction of the scents from VOCs though.*

*In my team's laboratory, we are investigating whether the skin VOC signature can reveal different attributes of the person it belongs to. These signals in skin VOC signatures are probably how dogs distinguish between people by smell,"* Morrin says, referring to man's best friend's unique ability to **sniff out diseases**.

She adds that while their research is still in the early stages, they have already made some interesting discoveries, such as being able to distinguish between the scents of males versus females based on the acidity of the VOCs from the skin.

"We use mass spectrometry to see this as the average human nose is not sophisticated enough to detect these VOCs," She adds. Researchers are optimistic about these technologies, believing that someday, simply breathing into a device can be enough to diagnose a disease.

## Smelly Armpits Can Indicate an Imbalance in Your Microbes

Microbial VOCs are a notable example of how your body's microbes play an intricate role in your health. If you struggle with bad body odor, these microbes also play a role.

Most people blame sweat when their armpits become smelly, but this isn't actually the case; in fact, your sweat alone is virtually odorless. Rather, bad body odor develops when the microbiome in your underarms is disrupted. Ironically, using products like antiperspirants and deodorants can significantly impact the bacterial density and variation in your armpits – this is what triggers bad odor.

In a 2016 study published in PeerJ,<sup>10</sup> researchers studied the impact of deodorant and antiperspirant use on human skin microbiome. They found that when people who habitually use deodorants and antiperspirants suddenly stopped using these products, the number of bacteria in their armpits increased, almost equivalent to the number of bacteria in the underarms of people who do not use these products.

However, when they resumed using these products, the number of bacteria went down a significant amount. The researchers noted:<sup>11</sup>

*"Our work clearly demonstrates that antiperspirant use strikingly alters armpit bacterial communities, making them more species-rich. Because antiperspirants only came into use within the last century, we presume that the species of bacteria they favor are not those historically common in the human armpit."*

## Antiperspirants Can Make Your Armpits Smell Worse

Your sweat smells because the bacteria living in your armpits break down lipids and amino acids found in your sweat into substances that have a distinct odor. To solve this problem, antiperspirants use antimicrobial agents to kill bacteria. They also contain aluminum, which acts as a plug in your sweat ducts to eliminate sweating.

But while they do temporarily block bad odor, the long-term effects aren't favorable. An earlier study<sup>12</sup> published in the Archives of Dermatological Research, found that the salts in these products may not only alter the bacterial diversity in the armpits,<sup>13</sup> but also introduce bacterium types that contribute to more bad odor.

While the antiperspirants do eliminate bacteria like Firmicutes and Staphylococcus, the odor they produce is milder. At the same time, they allow Actinobacteria populations to thrive, which can actually cause a more foul-smelling odor to develop. According to the researchers:<sup>14</sup>

*"[W]hen antiperspirants were applied, the microbiome showed an increase in diversity. Antiperspirant usage led toward an increase [in] Actinobacteria, which is an unfavorable situation with respect to body odor development. These initial results show that axillary cosmetics modify the microbial community and can stimulate odor-producing bacteria."*

When the study participants completely abstained from antiperspirant use, the Actinobacteria in their armpits dwindled and became virtually nonexistent. This means completely quitting will eventually cause the pungent smell to subside and completely disappear.

## **Are Natural Deodorants a Better Alternative?**

Another drawback to using personal care products like deodorants and antiperspirants is they're loaded with aluminum, parabens, phthalates and artificial fragrances that not only add to your toxic burden, but also harm your health. Aluminum salts used in antiperspirants, for example, may trigger breast cysts and breast cancer development in women, according to studies.<sup>15,16</sup>

Hence, it's safe to say that completely abstaining from using chemical-loaded underarm products, whether deodorants or antiperspirants, is your best choice. Switching to natural deodorants that do not contain chemical ingredients can be a viable alternative.

Homemade alternatives also exist. One simple remedy is to make a paste with a pinch of baking soda and water and apply it liberally to your underarm area. But although this very basic solution could help curb the odor, it will still disrupt your natural microbiome, which is what's causing the odor in the first place.

## **The Key to Becoming Odor-Free Is to Normalize Your Underarm Microbiome**

I recommend simply washing your armpits with just mild soap and water, and then applying nothing else. That's it. It's that simple.

Abstaining from all underarm products will help bring back the balance of good microbes in your armpits. Ironic as it may seem, this is actually the key to becoming odor-free. Once your underarm microbiome is normalized, your sweat will have no smell at all.

However, if you implement this approach and the odor still hasn't gone away, it could mean that your body is sweating out toxins and impurities. According to researchers, sweating<sup>17</sup> is a safe and effective way to eliminate toxins like arsenic, cadmium, lead and mercury. Nevertheless, the lingering odor will be temporary, and once you've addressed and eliminated your toxic burden, your sweat will become odorless.

## **Your Sense of Smell Could Also Predict Your State of Health**

The relationship between your sense of smell and your health is a two-way street. As others can identify details about your health from the way you smell, your own sense of smell – your nose – and whether it functions properly or not can also be an indicator of your longevity.

In a 2023 study<sup>18</sup> published in the Alzheimer's and Dementia journal, researchers found that rapidly losing your sense of smell could be a predictor of Alzheimer's disease. This isn't surprising, as the olfactory nerve is located deep in the base of the brain. When you

have problems with smell, it may indicate a higher likelihood you may develop neurological disorders, such as Alzheimer's or Parkinson's disease.

Meanwhile, a 2024 study<sup>19</sup> published in the journal of the American Heart Association (JAHA), found a link between poor olfactory function in seniors and an increased risk of congestive heart failure (CHF).

*"[I]n older adults, poor olfaction may be related to cardiovascular health either as a subclinical marker or a potential risk factor. As vascular remodeling develops and progresses, insufficient blood supply may gradually impair the health of nasal epithelium and structures in the olfactory signal pathway, limiting normal olfactory functioning.*

*Supporting this viewpoint, preliminary evidence suggests that carotid intima-media thickness and artery plaques, two subclinical markers of atherosclerosis, have been associated with the olfactory decline in older adults," the researchers concluded.*<sup>20</sup>

## **What Can You Do if You Lose Your Sense of Smell?**

Anosmia, or losing your sense of smell, can be alarming. Apart from chronic neurological conditions, certain triggers like viral infections and nasal polyps can also cause this to happen. During the COVID-19 pandemic, anosmia, along with loss of sense of taste, are common indicators of this infection.

In many people, losing their sense of smell can cause psychological distress – they experience feelings of isolation and problems with relationships and day-to-day functioning.<sup>21</sup>

Treating anosmia involves identifying its underlying cause and addressing it at the foundational level. If it's caused by a cold or influenza, for example, treating the viral infection will help you recover your sense of smell.

In some cases, though, you can try retraining your brain to smell again. Smell training uses a neural pathway, such as that used by your olfactory nerve cells, reinforcing and strengthening it. You can check out my article, "[Retrain Your Brain How to Smell Again](#)," for more information.

Having a poor sense of smell has also been linked to nutrient deficiencies, like vitamin D deficiency and zinc deficiency. Be sure to get your vitamin D levels tested and optimized. Going out in the sun during or close to solar noon is the best way to optimize your levels. As for zinc, you can optimize your levels through your diet. Foods like oysters, kefir, yogurt, grass fed milk and cheese, grass fed beef, spinach and mushrooms are great sources.<sup>22</sup>

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