What Is Anosmia?

Anosmia (the inability to smell) and **hyposmia** (a decreased ability to smell) describe the range of **olfactory dysfunction**, or smell disorders.

The ability to smell is a complex process involving the nose and brain. When air passes into the nose, odor molecules bind to the receptors of olfactory nerves. These nerves are found in a specialized lining at the top of the nasal cavity called the **olfactory epithelium**. The stimulation of olfactory nerves causes them to transmit a signal to the brain, where it is processed into a scent that a person can recognize and identify.

Causes of Olfactory Dysfunction

Smell disorders such as anosmia affect about 15 of every 1000 people in the United States and are more common with older age. Some common causes include **sinonasal disorders** such as allergic rhinitis (hay fever) and nasal polyps, head trauma, and infections such as viral illnesses. Anosmia can also be **congenital** (present at birth), **idiopathic** (no known cause), or related to dementia such as Parkinson disease or Alzheimer disease.

There have also been reports of **acute-onset** (sudden) anosmia, sometimes in the absence of other symptoms, as a marker of coronavirus disease 2019 (COVID-19), an infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

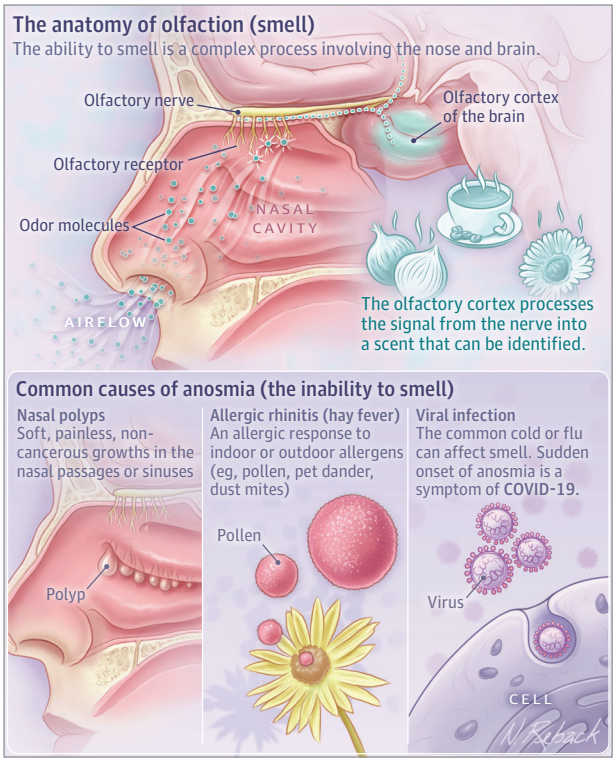
Diagnosis

Smell disorders can occur suddenly, such as after a viral illness or trauma, or gradually. Diagnosis usually starts with patient self-reporting, although not all patients who have measurable olfactory dysfunction realize it.

To determine the cause, a clinician may ask about recent illnesses or head or facial injury, when the decreased ability to smell was first noticed, and if there are any other symptoms. The examination may also include nasal endoscopy to look for obstructive causes such as polyps or swelling, or imaging such as computed tomography or magnetic resonance imaging. The patient may also be asked to take tests to identify common odors to determine the severity of olfactory dysfunction. Given that acute-onset olfactory dysfunction is included in the diagnostic criteria for COVID-19, the patient may undergo SARS-CoV-2 testing, and clinicians may wear personal protective equipment (PPE) during the examination.

Treatment and Management

Treatment of olfactory dysfunction depends on the cause. Up to two-thirds of cases associated with viral illness resolve on their own. During the COVID-19 pandemic, patients may be asked to self-isolate for about 2 weeks or until being tested for SARS-CoV-2 to protect others. Cases related to nasal obstruction (polyps, allergic rhinitis) require treatment of those underlying causes. **Olfactory training**, which involves daily exposure to a set of common odors, is another treatment option. Further research is being done on the ability of damaged olfactory **neurons** (nerve cells) to regenerate and the role of medications to support this.



The ability to smell also contributes to one's quality of life. If you feel your quality of life has been reduced because of a decreased ability to smell, talk to a health care practitioner. For safety, people who have lost their sense of smell should maintain fire and natural gas alarms and avoid eating foods past their expiration dates.

FOR MORE INFORMATION

National Institute on Deafness and Other Communication Disorders
www.nidcd.nih.gov/health/smell-disorders

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