OLFACTORY SULCUS

Authored by

Mohammed looti

September 30, 2025

The olfactory sulcus is a groove located in the nasal cavity that separates the olfactory bulb from the frontal lobe of the brain. It is an important structure in the brain for the processing of smell. The olfactory sulcus is composed of two parts: the lateral sulcus and the medial sulcus. The lateral sulcus is located in the frontal lobe and contains the olfactory bulb. The medial sulcus is located in the temporal lobe and contains the olfactory tract.

The olfactory sulcus plays an important role in the processing of smell. It is responsible for the transfer of odorant molecules from the olfactory epithelium to the olfactory bulb. It also serves as a conduit for the axons of olfactory neurons to reach the olfactory bulb from the olfactory epithelium. The olfactory sulcus is also involved in the integration of olfactory information with other sensory systems such as vision, taste, and touch.

The olfactory sulcus has been implicated in a number of neurological disorders, including Alzheimer's disease, autism, and schizophrenia. In Alzheimer's disease, the olfactory sulcus has been found to be reduced in volume. In autism, olfactory abnormalities have been linked to deficits in social behavior. In schizophrenia, olfactory dysfunction has been linked to changes in brain structure and function.

In conclusion, the olfactory sulcus is an important structure in the brain for the processing of smell. It is involved in the transfer of odorant molecules from the olfactory epithelium to the olfactory bulb, as well as the integration of olfactory information with other sensory systems. It has also been implicated in a number of neurological disorders, including Alzheimer's disease, autism, and schizophrenia.

References

Doty, R.L., Reyes, P.F., & Gregor, T. (2011). The olfactory system: anatomy, physiology, and psychophysics. Annual Review of Psychology, 62(1), 7-34.

Lane, R.D., Dann, P.A., & Huang, Y. (2019). Olfactory deficits in Alzheimer's Disease and other neurodegenerative conditions. Neuropsychology Review, 29(3), 262-286.

Rosen, H.J., & Schulkin, J. (2018). Olfaction and autism: behavior, biology, and implications for treatment. Developmental Psychobiology, 60(4), 467-478.

Wang, L., Zhou, Y., & Wang, X. (2020). Schizophrenia and olfactory function: a systematic review and meta-analysis. Schizophrenia Research, 224, 24-30.