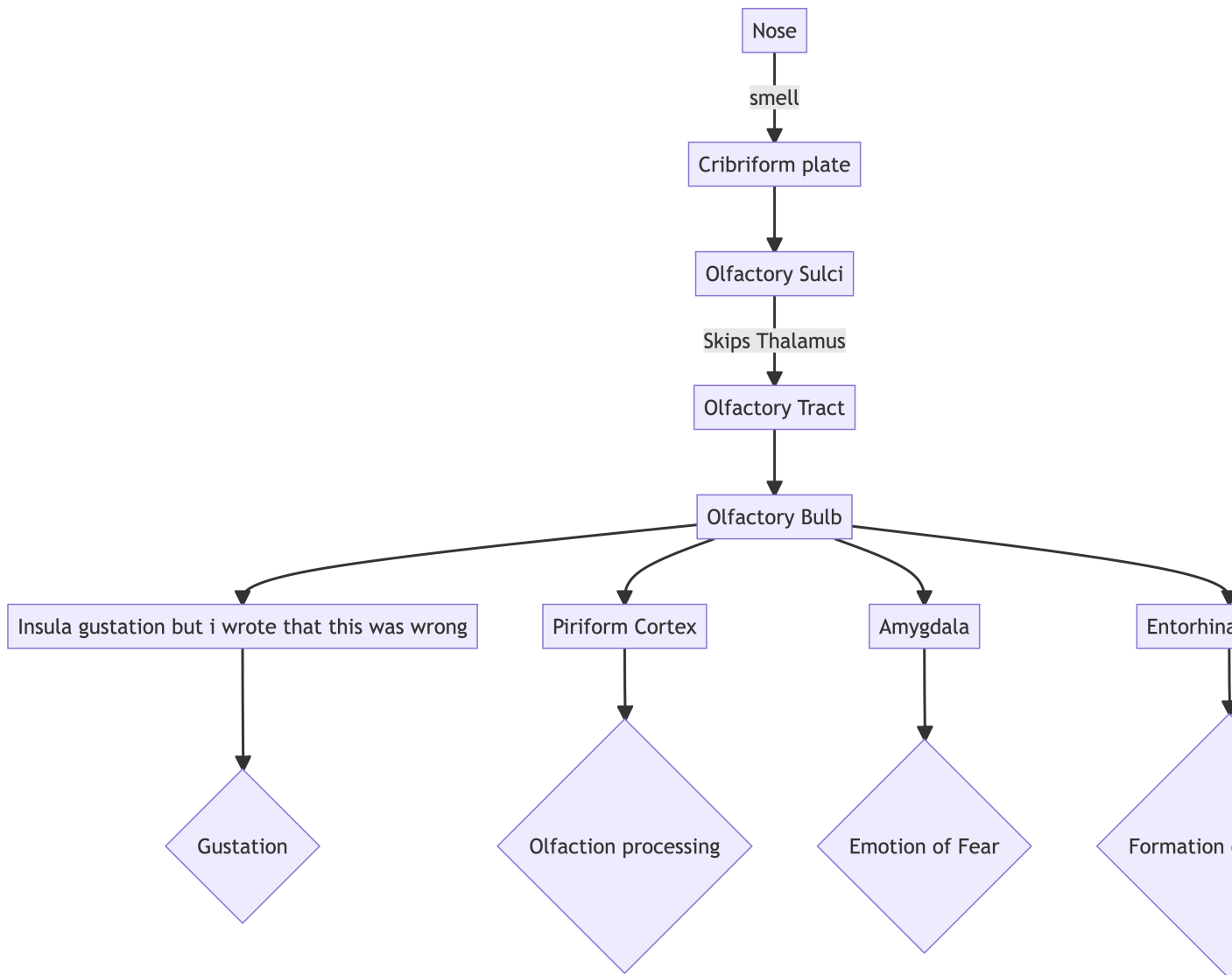


CN I: Olfactory nerve

Nathaniel Yomogida, SPT Chloë Kerstein, SPT

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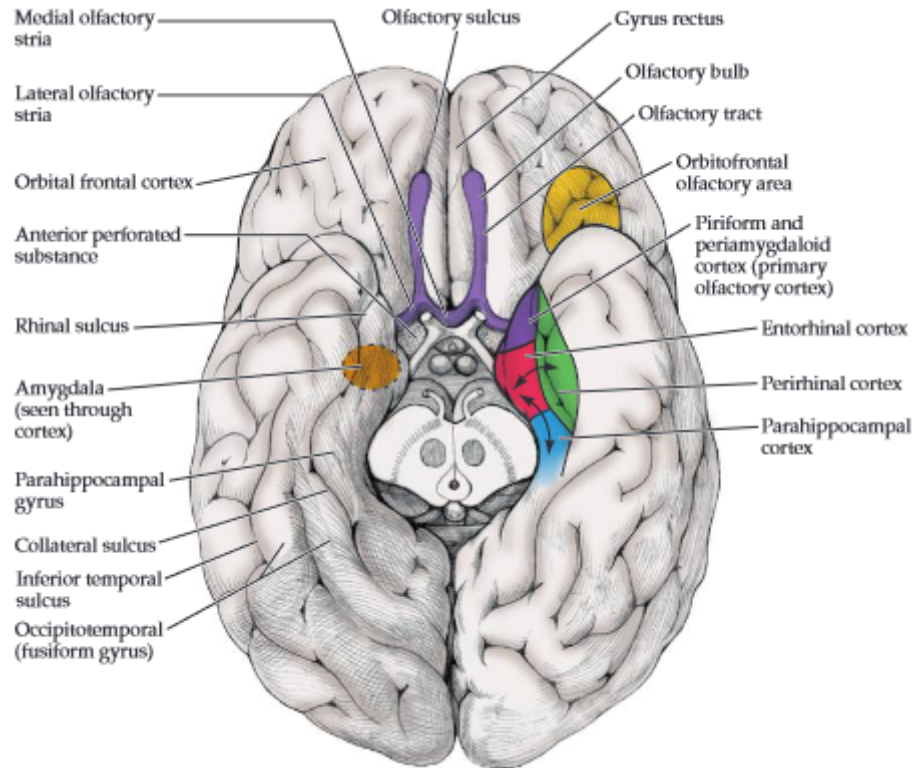


Figure 1: Central Olfactory Structures

1 Pathway:

1.1 First order neurons:

1. Smell is detected by specialized chemoreceptors on bipolar primary sensory neurons found in the olfactory neuroepithelium¹
2. Olfactory nerve (made up of axons combined with other receptor cell axons)¹
3. Pass through Cribriform plate of Ethmoid bone¹
4. Terminate on the olfactory bulb (main relay station of olfactory pathway)¹

1.2 Second order neurons:

1. Olfactory tract
2. Split: Medial & Lateral striae
 1. Medial Stria: Projects to subcallosal gyrus

2. Lateral Stria: continues on to Parahippocampal gyrus

2 Relevant Structures

The olfactory nerve does not have peripheral ganglia

Olfactory cortex: no single structure - Piriform cortex: - Located: Below lateral olfactory stria
- Function: Olfactory processing - [Amygdala](#): - Located: Anterior to Temporal/Inferior horn of Lateral Ventricle - Function: Emotion & Fear - Entorhinal cortex: - Location: Anterior part of Parahippocampal gyrus - Function: Formation of Memory

3 Dysfunction

- [Anosmia](#)
1. Blumenfeld H. *Neuroanatomy Through Clinical Cases*. 3rd ed. Oxford university press; 2022.