

Senses



Nervous system

<https://www.youtube.com/watch?v=xRkPNwqm0mM>

Sensory receptors - detect environmental changes and trigger nerve impulses (a change that can be detected is called stimuli)

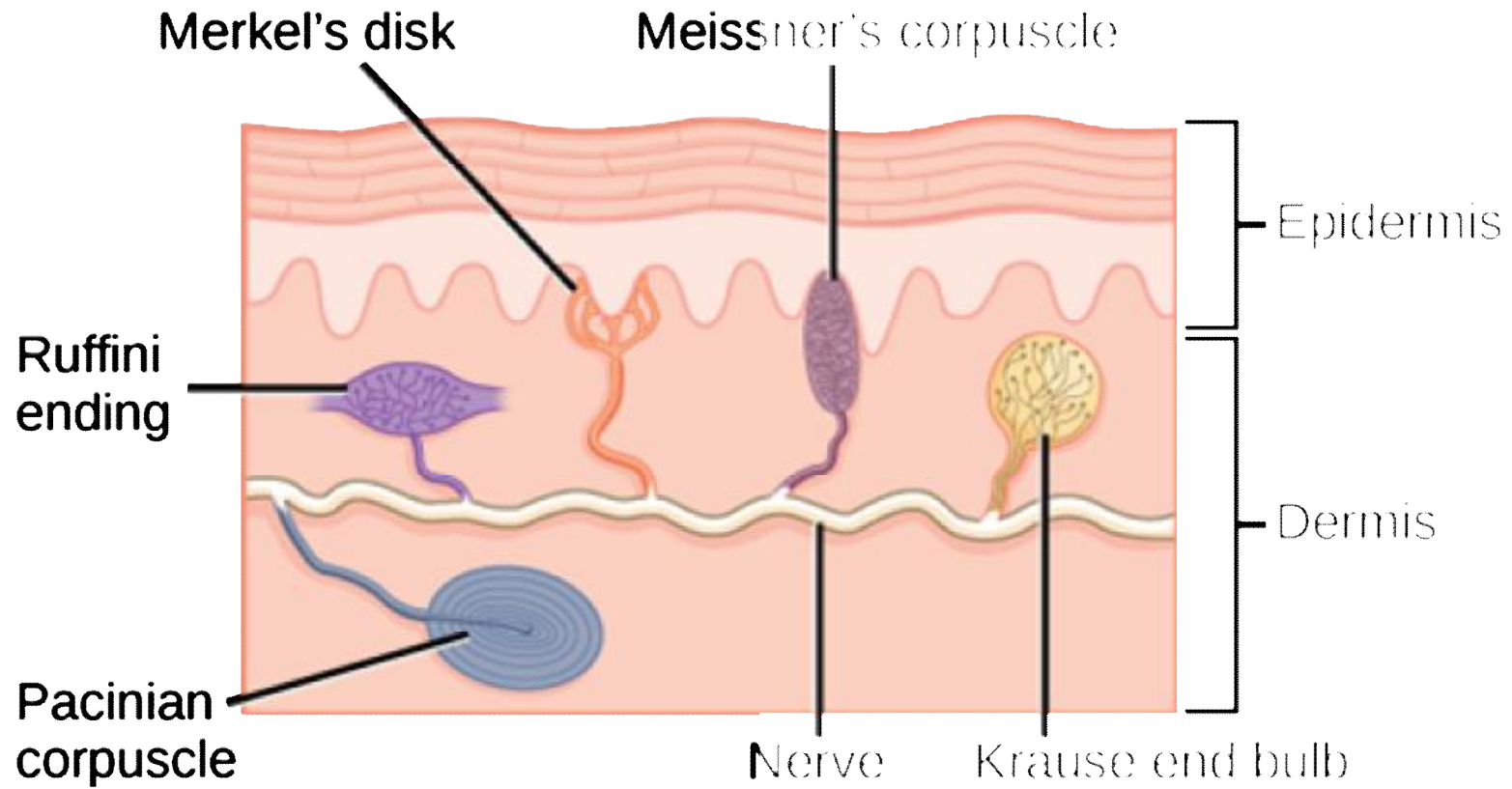
- somatic senses (touch, pressure, temp, pain)

- special senses (smell, taste, equilibrium, hearing, vision)

Types of receptors

1. Mechanoreceptors = location, pressure
2. Nociceptors = pain
3. Thermoreceptors = heat, cold
4. Chemoreceptors = chemical (taste, smell)
5. Photoreceptors = light

Sense of touch - mechanoreceptors



The four major types of tactile mechanoreceptors include: Merkel's disks, Meissner's corpuscles, Ruffini endings, and Pacinian corpuscles.

Merkel's disk are slow-adapting, unencapsulated nerve endings that respond to light touch; they are present in the upper layers of skin that has hair or is glabrous.

Meissner's corpuscles are rapidly-adapting, encapsulated neurons that responds to low-frequency vibrations and fine touch; they are located in the glabrous skin on fingertips and eyelids.

Ruffini endings are slow adapting, encapsulated receptors that respond to skin stretch and are present in both the glabrous and hairy skin.

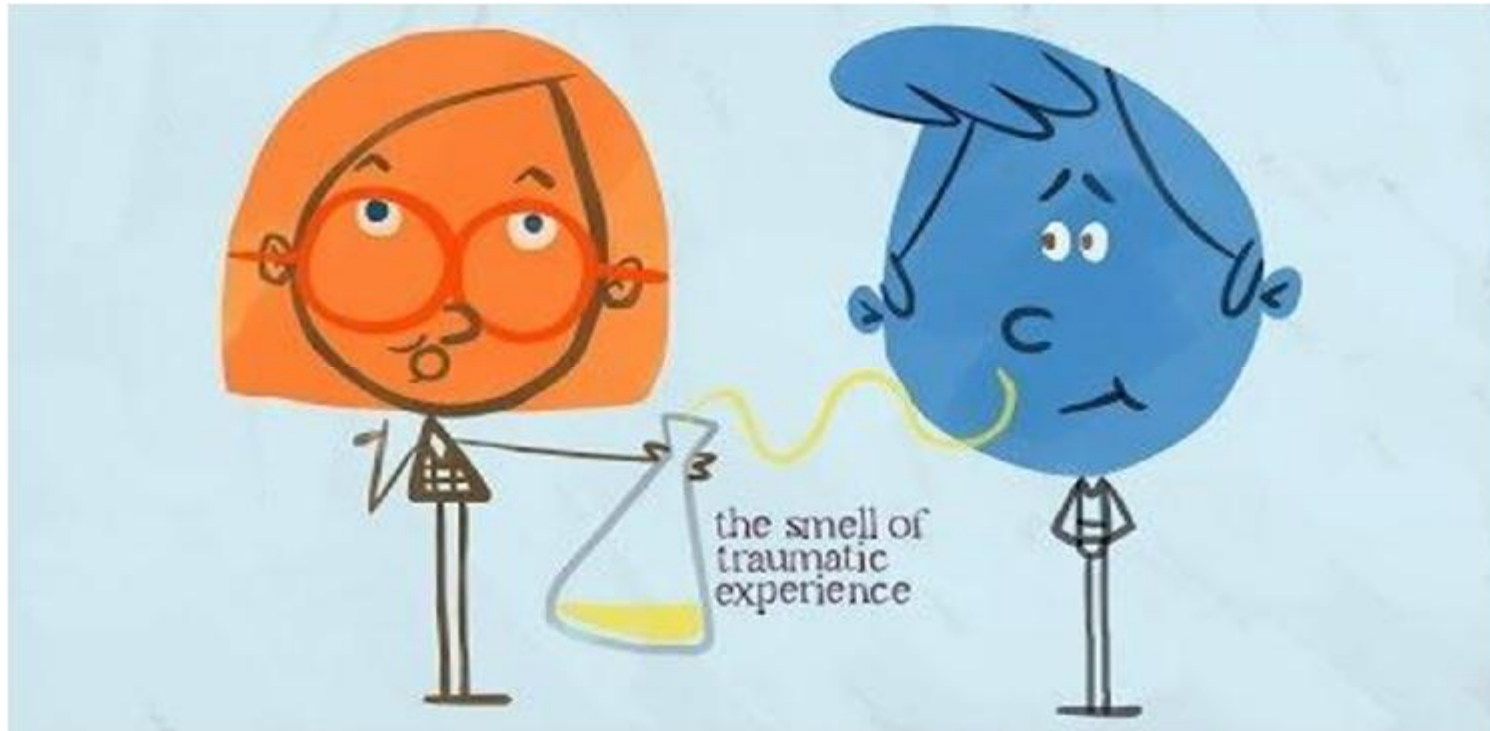
Pacinian corpuscles are rapidly-adapting, deep receptors that respond to deep pressure and high-frequency vibration.

Source: <https://www.boundless.com/biology/textbooks/boundless-biology-textbook/sensory-systems-36/somatosensation-206/somatosensory-receptors-778-12012/>

How do the painkillers work

<http://ed.ted.com/lessons/how-do-pain-relievers-work>

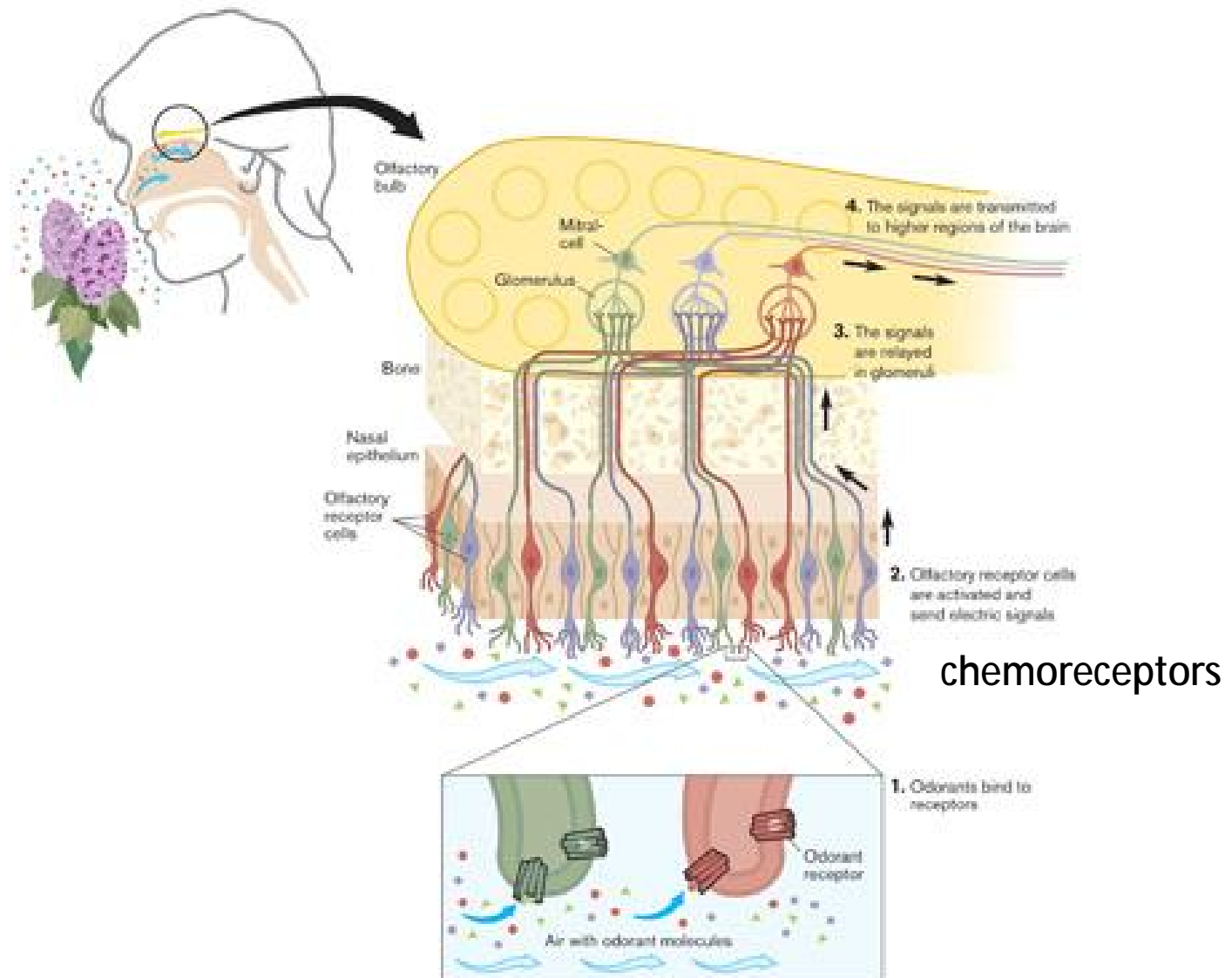
How do we smell?



<https://www.youtube.com/watch?v=snJnO6OpjCs>

Smell

Odorant Receptors and the Organization of the Olfactory System



Odour --> Receptor cell --> Olfactory bulb --> Olfactory nerve --> Limbic system (brain)

Taste

chemoreceptors

