

# Interoreflex pathways

Interoreflex pathways include **viscerosensory and visceromotor pathways**. They are part of the white matter of the CNS, they run together with somatic pathways (somatomotor, somatosensitive).

## Afferent pathways

Afferent pathways are **viscerosensitive pathways** that begin at the periphery from interoceptors - free nerve endings or specialized *endings in internal organs*. It ranks among the 3 neuronal pathways:

### 1. neuron

The first neuron is a **pseudounipolar cell of the spinal ganglia** (Dogiel cells) or the **ganglia of sensitive cranial nerves IX, X**. Their dendrite originates from the periphery and the axon ends in the ncl. intermediomediales or to ncl. solitarii.

### 2. neuron

It starts with **ncll. intermediomediales + ncll. solitarii** (viscerosensitive zone of the spinal cord), scattered in all cords of the spinal cord and in the trunk. Continues to ncl. lateralis thalami - similarly to the lemniscal and anterolateral system.

### 3. neuron

The third neuron goes from **ncll. ventrolate. thalami** to:

- sensitive cortical field
- anterior part of the cinguli gyrus
- orbital gyri
- uncus gyri parahippocampalis
- insula (lobus insulae Reili)

All these components are referred to as **Gloor's visceral brain**.

## Efferent pathways

These are visceromotor pathways, which are divided into cortical, trunk and spinal cord. They connect the CNS with vegetative effectors via 2 visceromotor neurons.

### Cortical interoreflex pathways

**Interoreflex centers** of the cortex are located in the **anterior part of the gyrus cinguli**; ranks here

- *tr. frontohypothalamici* and *tr. frontothalamohypothalamici* - from the frontal cortex to the hypothalamus
- *tr. olfactohypothalamicus*, *tr. olfactomesencephalicus*
- *tr. temporostratiaci - striatopallidales - pallidohypothalamici*
- *tr. retinohypothalamicus*.
- **olfactory and optical-sexual reflexes** - they are ensured by Becher's bb, which are in: *ncl. supraopticus*, *paraventricularis*, *tuberales*, *neurohypophysis* (*tr. retinohypothalamicus*)

### Trunk interoreflex pathways

They arise **from the hypothalamus** to the ncll. III., VII., IX., X. through:

- *fasciculus longitudinalis post.* (Schützi = *tr. sbst. griseae infundibuli* = *fasc. ependymalis*):
- medial tuberal hypothalamus and med. thalamus → *fibrae periventriculares* → FLP → nuclei: ncl. passports III., ncll. tegments, etc. ncll. engine waists, RF (*tr. hypothalamoreticulares*)
- med. tuberal hypothalamus → ncl. ruber and RF → ncll. pasy
- hypothalamus → posterior lobe of the pituitary gland, tracks: *tr. supraopticohypophysialis*, *tr. paraventriculohypophysialis*, *tr. tuberohypophysialis*

### Spinal interoreflex pathways

It includes diffusely the anterior and lateral cords for the bladder, the genitals, the dilator pupillae muscle, and the thermoregulatory fibers of the skin. At the canalis centralis it takes place *fasc. paraependymalis* → ncl. intermediolateralis → r. communicans albus → ggl. trunci sympatici.

## Sources

### Related articles

- Head's zones

### References

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