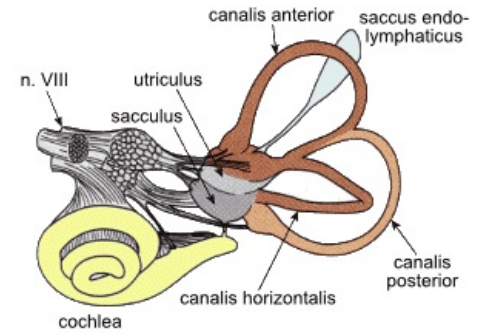


# Vestibular system

**The vestibular system** is a sensory organ, it dominates in ensuring the balance of the head and body in space (in cooperation with the visual and proprioceptive system). It is located in the labyrinth of the inner ear. Endolymph and perilymph fill the interior of the entire apparatus.

The vestibular apparatus consists of several parts. The most famous are **the hair cells** that register angular acceleration, they are located in the domes, where they are stored in the ampullae, where they expand into 3 semicircular canals. Furthermore, we find the **sensory cells of the macula and saccule**, which are stimulated by the otoliths and thus respond to transverse vertical acceleration. The third are the fibers of the sensory cells that come from the cupula, macula and saccule to join in **the vestibular ggl.** in the internal auditory canal → the fibers continue as the vestibular nerve (1.N of the vestibular pathway) and end in the vicinity of IV. chambers in **the vestibular nuclei** (Deiter's, Schwalbe's, Bechtěrev's, Roller's). The vestibular nuclei are interconnected, yet each nucleus has another specific projection – **2.N vestibular**. These fibers respond to horizontal acceleration.



Vestibular system

In the vestibular apparatus we find several orientation pathways:

- **Fasciculus longitudinalis medialis** – the path leading to the nuclei of the oculomotor nerves.
- **Vestibulocerebellar pathway** – leads to the cerebellum (its flocculonodular part).
- **Vestibulospinal pathway** – leads to the anterior horns of the spinal cord (alpha and gamma MN).
- **The 3.N vestibular** leads to the temporal cerebral cortex.<sup>[1]</sup>

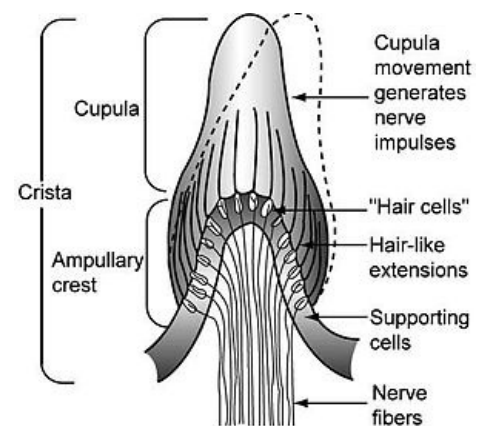
## Links

### Related articles

- Vestibular syndrome
- Nystagmus
- Dizziness
- Examination of the vestibular system

### Reference

1. SEIDL, Zdeněk – OBENBERGER, Jiří. *Neurologie pro studium i praxi*. 1. edition. Grada Publishing, 2004. ISBN 80-247-0623-7.



Crista ampullaris