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NURSING

Physiology of balance.

 Thee vestibular system is the sensory apparatus of the inner ear that helps the body maintain its postural equilibrium. The information furnished by the vestibular system is also essential for coordinating the position of the head and the movement of the eyes. There are two sets of end organs in the inner ear or labyrinth: the semicircular canals, which respond to rotational movements (angular acceleration) and the utricle and saccule within the vestibule, which respond to changes in the position of the head with respect to gravity (linear acceleration). Functionally these organs related to the cerebellum and to the reflex centres of the spinal cord and brainstem that govern the movements of the eyes, neck and limbs. The brain senses the direction and speed of rotation of the head by the movement of fluids in the semicircular canals. Balance is maintained by the interactions between the labyrinth and the other systems in the body, such as the visual and skeletal systems.

The main inputs into the balance systems are the:

* Vestibular labyrinths
* Visual systems (eyes)
* Somatosensensory system especially proprioception

The main outputs from the vestibular nuclei are:

* Vestibular ocular: permitting reflex eye movements related to posture
* Vestibulo-spinal