

39 - Vestibulocochlear nerve

CN VIII

Vestibulocochlear nerve - CN VIII

© SPM Course Trigeminal nerve - CN V □ The nucleus of the nerve stretches from the midbrain (i.e. mesencephalic nerve) through the pons (main sensory nucleus and motor nucleus) to the cervical region (a spinal tract of the trigeminal nerve). □ It provides sensory innervation for the face and supplies the muscles of mastication. □ Divisions: ophthalmic; V1, maxillary; V2, mandibular; V3. □ Corneal reflex: □ Afferent – V nerve □ Efferent – facial nerve □ Complete paralysis of CN V results in sensory loss over the ipsilateral face and weakness of the muscles of mastication. Attempted opening of the mouth results in deviation of the jaw to the paralyzed side. □ Acoustic neuroma can press on 5th nerve leading to loss of the corneal reflex. Abducens nerve - CN VI The nucleus of the nerve is located in the paramedian pontine region on the floor of the fourth ventricle. It innervates the lateral rectus, which abducts the eye. Patients complain of double vision on horizontal gaze only. This finding is referred to as horizontal homonymous diplopia. Paralysis of CN VI is a false localising sign as it may result from increased intra cranial pressure. Facial nerve - CN VII □ Motor supply to facial muscles from the motor nucleus. □ Though it is considered a predominantly motor nerve, it also innervates a small strip of the skin of the posteromedial aspect of the pinna and around the external auditory canal. It serves to conduct taste sensation from the anterior two-thirds of the tongue and relay to sensory nucleus tractus solitarius. □ Secretomotor functions include parasympathetic relay to lacrimal, lingual and submandibular glands. □ A lower-motor-neuron lesion of the nerve, results in complete ipsilateral facial paralysis; the face draws to the opposite side as the patient smiles. Eye closure is impaired, and the ipsilateral palpebral fissure is wider. This is called Bell 's palsy where the cause is idiopathic. □ In an upper motor neuron lesion, only the lower half of the face is paralyzed. Eye closure is usually preserved. Vestibulocochlear nerve - CN VIII □ 2 components – vestibular for balance; cochlear for hearing. □ Auditory part tested using 512 Hz – Weber's test and Rinne's test. □ The Weber test involves holding a vibrating tuning fork against the forehead in the midline. The vibrations are normally perceived equally in both ears because bone conduction is equal. In conductive hearing loss, the sound is louder in the abnormal ear than in the normal ear. In sensorineural hearing loss, lateralization occurs to the normal ear. □ In the Rinne test, the vibrating tuning fork is placed over the mastoid region until the sound is no longer heard. It is then held at the opening of the ear canal on the same side. A patient with normal

Revision #1

Created 2026-01-04 20:04:01 UTC by Omar Ayman

Updated 2026-01-04 20:04:01 UTC by Omar Ayman