

# CNVIII Vestibulocochlear Nerve

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## Table of contents

### 1 Cochlea 1

2 Divisions: 1) Vestibular root 2) Cochlear Root

Hearing: Cochlear nerve Cochlear nucleus C/L superior olive Lateral lemniscus Inferior colliculus Thalamus Primary auditory cortex

Medial Longitudinal Fasciculus: connects nuclei involved in eye movement to each other & to vestibular nuclei

Semicircular canals: Semicircular canal -> Vestibular ganglion -> Vestibular nerve

## 1 Cochlea

- Multiple decussations = unilateral hearing loss is rare with CNS lesions
- Dorsal cochlear & ventral cochlear nuclei separated by inferior cerebellar peduncles
- Cochlea
- Spiral ganglion
  - 1) Anterior cochlear nuclei (Medulla) (Pass ventral to inferior cerebellar peduncle)
  - Inf colliculi
    - \* medial geniculate nucleus of thalamus
    - \* Auditory radiations
    - \* Primary Auditory cortex (Brodmann's area 41) Heschl's Transverse gyri
    - \* (Superior temporal gyrus)
  - 2) Dorsal cochlear nucleus
    - \* Cross pontine tegmentum
    - \* Inferior colliculi
    - \* Superior olivary nuclear complex (localize sounds horizontally & synapse BIL)
    - \* Auditory radiations?