

NUCLEI BY THE PART OF THE BRAIN STEM:

| Nuclei present in the MIDBRAIN | Nuclei present in the PONS | Nuclei present in the MEDULLA |
|--|--|--|
| Mesencephalic trigeminal nucleus (V) – sensory . | Pontine Nuclei | Hypoglossal nucleus (XII) – motor |
| Red nucleus – motor . (at superior colliculus level) | Vestibular nuclei (VIII) – sensory (rostral medulla and caudal of pons) | Nucleus ambiguus (IX, X, XI) – motor |
| Trochlear nucleus (IV) – motor . | Salivary nuclei – visceromotor : ✓ Inferior salivary nucleus (IX) ✓ Superior salivary nucleus (VII) | Cochlear nuclei (VIII) – sensory : (rostral medulla) ✓ Dorsal cochlear nucleus Ventral cochlear nucleus |
| Oculomotor nucleus (III) – motor . | Facial nucleus (VII) – motor | Solitary nucleus (VII, IX, X) – sensory . |
| Edinger-Westphal nucleus (III) – visceromotor . | Abducens nucleus (VI) – motor | Spinal trigeminal nucleus (V) – sensory . |
| -- | Trigeminal motor nucleus (V) – motor . | Inferior olivary nucleus. (rostral medulla) |
| -- | Main trigeminal nucleus (V) - sensory | Vestibular nuclei (VIII) – sensory (rostral medulla and caudal of pons) |
| -- | -- | Dorsal motor nucleus of vagus nerve (X) – visceromotor . |

NUCLEI OF THE CRANIAL NERVES:

| Cranial nerve | Nuclei |
|-------------------------|---|
| Olfactory nerve | Olfactory bulb |
| Optic nerve | Lateral geniculate nucleus |
| Oculomotor nerve | ✓ Oculomotor nucleus ✓ Edinger-Westphal nucleus(accessory) |
| Trochlear nerve | Trochlear nucleus |
| Trigeminal nerve | ✓ Mesencephalic nucleus ✓ Principal sensory nucleus ✓ Spinal trigeminal nucleus ✓ Trigeminal motor nucleus |
| Abducens nerve | Abducens nucleus |
| Facial nerve | ✓ Facial motor nucleus ✓ Superior salivatory nucleus ✓ Solitary nucleus |
| Vestibulocochlear nerve | ✓ Vestibular nuclei. (S,I,M,L) ✓ Cochlear nucleus. (v.d) |
| Glossopharyngeal nerve | ✓ Solitary nucleus ✓ Spinal nucleus of the trigeminal nerve ✓ Nucleus ambiguus ✓ Inferior salivatory nucleus |
| Vagus nerve | ✓ Dorsal nucleus of vagus nerve ✓ Nucleus ambiguus ✓ Solitary nucleus ✓ Spinal trigeminal nucleus |
| Accessory nerve | ✓ Spinal accessory nucleus ✓ Nucleus ambiguus |
| Hypoglossal nerve | Hypoglossal nucleus |

الجدولين تقريباً نفس المحتوى لكن بتقسيمين مختلفين

هذا الكلام مذكور لكن بشكل متفرق في المحاضرات لكن مهم جداً بالأخص في محاضرة internal structures of brain stem
الملف مراجع من قبل دكتورة سناء.

¹ concerned with motor impulses to the viscera.(parasympathetic).

TABLE 11.6 Cranial Nerves

| Nerve | Components | Function | Opening in Skull |
|-------------------------|------------------------------|--|--|
| I. Olfactory | Sensory | Smell | Openings in cribriform plate of ethmoid |
| II. Optic | Sensory | Vision | Optic canal |
| III. Oculomotor | Motor | Lifts upper eyelid, turns eyeball upward, downward, and medially; constricts pupil; accommodates eye | Superior orbital fissure |
| IV. Trochlear | Motor | Assists in turning eyeball downward and laterally | Superior orbital fissure |
| V. Trigeminal | | | |
| Ophthalmic division | Sensory | Cornea, skin of forehead, scalp, eyelids, and nose; also mucous membrane of paranasal sinuses and nasal cavity | Superior orbital fissure |
| Maxillary division | Sensory | Skin of face over maxilla and the upper lip; teeth of upper jaw; mucous membrane of nose, the maxillary air sinus, and palate | Foramen rotundum |
| Mandibular division | Motor | Muscles of mastication, mylohyoid, anterior belly of digastric, tensor veli palatini, and tensor tympani | Foramen ovale |
| | Sensory | Skin of cheek, skin over mandible, lower lip, and side of head; teeth of lower jaw and temporomandibular joint; mucous membrane of mouth and anterior two thirds of tongue | |
| VI. Abducent | Motor | Lateral rectus muscle: turns eyeball laterally | Superior orbital fissure |
| VII. Facial | | | |
| | Motor | Muscles of face, cheek, and scalp; stapedius muscle of middle ear; stylohyoid; and posterior belly of digastric | Internal acoustic meatus, facial canal, stylomastoid foramen |
| | Sensory | Taste from anterior two thirds of tongue, floor of mouth, and palate | |
| | Secretomotor parasympathetic | Submandibular and sublingual salivary glands, lacrimal gland, and glands of nose and palate | |
| VIII. Vestibulocochlear | | | |
| Vestibular | Sensory | Position and movement of head | Internal acoustic meatus |
| Cochlear | Sensory | Hearing | |
| IX. Glossopharyngeal | | | |
| | Motor | Stylopharyngeus muscle: assists swallowing | |
| | Secretomotor parasympathetic | Parotid salivary gland | Jugular foramen |
| | Sensory | General sensation and taste from posterior third of tongue and pharynx; carotid sinus and carotid body | |

Done by : Afnan Almalki.

If there are any mistakes please contact me : dr.afnanmalki@gmail.com