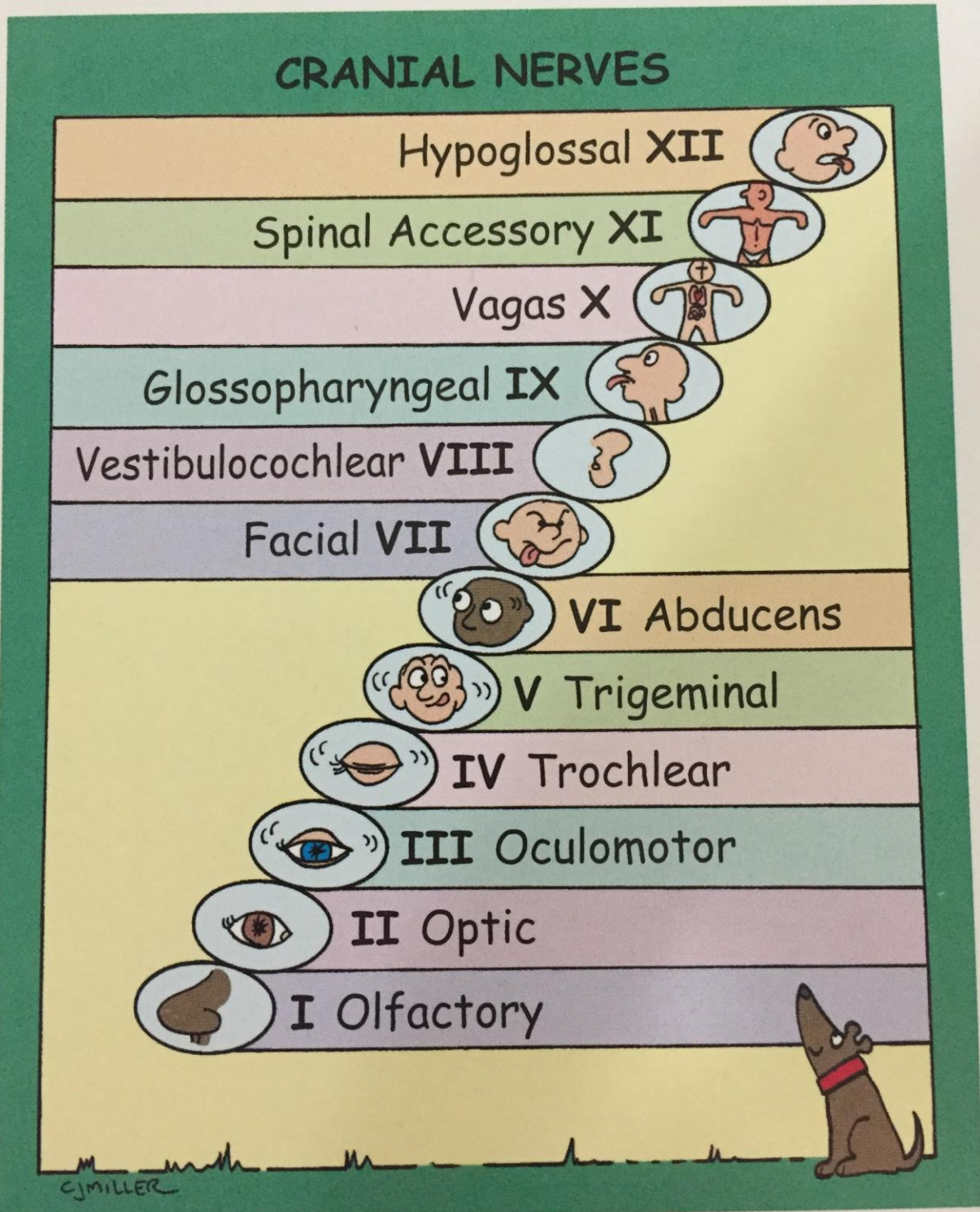


Cranial Nerves

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from: **Neuroanatomy** (page 102)

Cranial nerve	Component fibres	Structures innervated	Central connections	Functions
I Olfactory	Sensory	Olfactory epithelium	Olfactory bulb	Olfaction
II Optic	Sensory	Retina	Lateral geniculate nucleus; pretectal nucleus	Vision; pupillary light reflex
III Oculomotor	Motor	Superior, inferior and medial rectus muscles; inferior oblique muscle; levator palpebrae superioris muscle	Oculomotor nucleus	Movement of eyeball; elevation of upper eyelid
	Parasympathetic	Sphincter pupillae and ciliary muscle of the eyeball, via ciliary ganglion	Edinger-Westphal nucleus	Pupillary constriction and accommodation
IV Trochlear	Motor	Superior oblique muscle	Trochlear nucleus	Movement of eyeball
V Trigeminal	Sensory	Face, scalp, cornea, nasal and oral cavities, cranial dura mater	Trigeminal sensory nucleus	General sensation
	Motor	Muscles of mastication; tensor tympani	Trigeminal motor nucleus	Opening and closing mouth; tension on tympanic membrane
VI Abducens	Motor	Lateral rectus muscle	Abducens nucleus	Movement of eyeball
VII Facial	Sensory	Anterior two-thirds of tongue	Nucleus solitarius	Taste
	Motor	Muscles of facial expression; stapedius muscle	Facial nucleus	Facial movement; tension on bones of middle ear
	Parasympathetic	Salivary and lacrimal glands, via submandibular and pterygopalatine ganglia	Superior salivatory nucleus	Salivation and lacrimation
VIII Vestibulocochlear	Sensory	Vestibular apparatus; cochlea	Vestibular nuclei; cochlear nuclei	Vestibular sensation (position and movement of head); hearing
IX Glossopharyngeal	Sensory	Pharynx, posterior third of tongue, Eustachian tube, middle ear	Trigeminal sensory nucleus	General sensation
		Posterior third of tongue; carotid body, carotid sinus	Nucleus solitarius	Taste; chemoreception, baroreception
	Motor	Stylopharyngeus muscle	Nucleus ambiguus	Swallowing
	Parasympathetic	Parotid salivary gland, via otic ganglion	Inferior salivatory nucleus	Salivation
X Vagus	Sensory	Pharynx, larynx, trachea, oesophagus, external ear	Trigeminal sensory nucleus	General sensation
		Thoracic and abdominal viscera; aortic bodies, aortic arch	Nucleus solitarius	Visceral sensation; chemoreception, baroreception
	Motor	Soft palate, pharynx, larynx, upper oesophagus	Nucleus ambiguus	Speech, swallowing
	Parasympathetic	Thoracic and abdominal viscera	Dorsal motor nucleus of vagus	Innervation of cardiac muscle. Innervation of smooth muscle and glands of cardiovascular system, respiratory and gastrointestinal tracts
XI Accessory (spinal roots)	Motor	Sternomastoid and trapezius muscles	Spinal cord	Movement of head and shoulder
XII Hypoglossal	Motor	Intrinsic and extrinsic muscles of tongue	Hypoglossal nucleus	Movement of tongue

Cranial nerves emerging from the brainstem *from up to down*:

Midbrain: 3rd, 4th

Pons: 5th, 6th, 7th, 8th

Medulla: 9th, 10th, 11th, 12th

Pons (number of letters are less – 4 letters – so the smaller number of cranial nerves arise from it: 5th 6th 7th 8th)

Medulla oblongata (number of letters are more – 16 letters – so the bigger number cranial nerves arise from it: 9th 10th 11th 12th)

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