Cranial Nerves: Chart and Functions

Anatomy & Physiology · 34 cards

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QUESTION	ANSWER
CN I: name, type and function?	Olfactory nerve, sensory. Smell.
CN II: name, type and function?	Optic nerve, sensory. Vision.
CN III: name, type and function?	Oculomotor nerve, motor. Most eye movements, raising the eyelid, constricting the pupil.
CN IV: name, type and function?	Trochlear nerve, motor. Superior oblique: turns the eye down and in.
CN V: name, type and function?	Trigeminal nerve, both. Sensation of the face; chewing muscles.
CN VI: name, type and function?	Abducens nerve, motor. Lateral rectus: turns the eye outward.
CN VII: name, type and function?	Facial nerve, both. Facial expression, taste on the front of the tongue, tears and saliva.
CN VIII: name, type and function?	Vestibulocochlear nerve, sensory. Hearing and balance.
CN IX: name, type and function?	Glossopharyngeal nerve, both. Taste on the back of the tongue, throat sensation, swallowing, parotid saliva.

QUESTION	ANSWER
CN X: name, type and function?	Vagus nerve, both. Swallowing and voice; parasympathetic supply to the heart, lungs and gut.
CN XI: name, type and function?	Accessory nerve, motor. Sternocleidomastoid and trapezius: turning the head, shrugging.
CN XII: name, type and function?	Hypoglossal nerve, motor. Movements of the tongue.
Which cranial nerves are purely sensory?	I, II and VIII. Smell, sight, hearing and balance.
Which cranial nerves are motor only?	III, IV, VI, XI and XII. The three eye movement nerves, plus accessory and hypoglossal.
Which cranial nerves are both sensory and motor?	V, VII, IX and X. Trigeminal, facial, glossopharyngeal, vagus.
Which cranial nerves carry parasympathetic fibers?	III, VII, IX and X. Read backward: 10, 9, 7, 3, “1973.”
Which three cranial nerves move the eye?	Oculomotor (III), trochlear (IV) and abducens (VI). VI pulls the lateral rectus, IV the superior oblique, III all the others.
Which two cranial nerves do not attach to the brainstem?	Olfactory (I) and optic (II). They connect to the forebrain; the other ten attach to the brainstem.
What are the three branches of the trigeminal nerve?	Ophthalmic (V1), maxillary (V2), mandibular (V3). Only the mandibular branch carries motor fibers, for chewing.
Which cranial nerve carries taste from the front two-thirds of the tongue?	Facial (CN VII). Touch from the same area travels in the trigeminal (V3).

QUESTION	ANSWER
Which cranial nerve carries taste from the back third of the tongue?	Glossopharyngeal (CN IX). It also carries touch from that part of the tongue.
Which nerves make up the gag reflex?	IX senses the touch, X contracts the pharynx. Glossopharyngeal is the sensory limb, vagus the motor limb.
Which nerves make up the pupillary light reflex?	II detects the light, III constricts the pupil. Both pupils constrict, even when only one eye is lit.
Which nerves make up the corneal (blink) reflex?	V1 feels the touch on the cornea, VII closes the eyelids. Trigeminal is the sensory limb, facial the motor limb.
One eye is “down and out,” with a drooping eyelid and a dilated pupil. Which nerve is damaged?	Oculomotor (CN III). Only the lateral rectus (VI) and superior oblique (IV) still pull on the eye.
When one hypoglossal nerve is damaged, which way does the stuck-out tongue point?	Toward the damaged side. The healthy side pushes the tongue across.
Bell’s palsy is a paralysis of which cranial nerve?	Facial (CN VII). One whole side of the face droops, forehead included.
Hoarseness after thyroid surgery points to injury of which nerve?	Recurrent laryngeal nerve, a branch of the vagus (CN X). It supplies most muscles of the larynx.
Which cranial nerve slows the heart rate?	Vagus (CN X). Its parasympathetic fibers act on the heart’s pacemaker.
Which cranial nerve reaches the farthest into the body?	Vagus (CN X). Its name means “wandering”: it runs down to the abdomen.
Which cranial nerve is the largest?	Trigeminal (CN V). It carries sensation from almost the whole face.
How do you test the olfactory nerve (CN I)?	Familiar smells (coffee, mint), one nostril at a time, eyes closed.

QUESTION	ANSWER
How do you test the accessory nerve (CN XI)?	Shrug the shoulders and turn the head against resistance. Look for weakness or a difference between sides.
Which two tuning fork tests check hearing (CN VIII)?	Weber (fork on top of the head) and Rinne (fork on the mastoid, then beside the ear). They tell conductive from sensorineural hearing loss.