

# The 12 Cranial Nerves

<b>Nerve #</b>	<b>Name</b>	<b>Function</b>
1st	Olfactory	Relays smell
2nd	Optic	Transmits visual information
3rd	Oculomotor	External muscles of the eye
4th	Trochlear	Also supplies muscles of the eye
5th	Trigeminal	Chewing and sensation in the face
6th	Abducent	Controls lateral eye movement
7th	Facial	Muscles of facial expression, taste buds, and blinking
8th	Auditory	Hearing and balance
9th	Glossopharyngeal	Sensation, taste and swallowing
10th	Vagus	Organs in chest and abdomen
11th	Accessory	Supplies two neck muscles, the sternomastoid and trapezius
12th	Hypoglossal	Muscles of the tongue and neck

# The 12 Cranial Nerves—Detail

Cranial Nerve 1	Sensory nerve – Olfactory Nerve – controls sense of smell
Cranial Nerve 2	Sensory nerve- Optic Nerve- controls vision by sending information from retina
Cranial Nerve 3	Motor nerve- Oculomotor Nerve-Controls most eye muscles. Works closely with Cranial Nerves 4 & 6. Controls eye movement, pupil dilation, and pupillary constriction. It also controls the muscles that elevate the upper eyelids.
Cranial Nerve 4	Motor nerve- Trochlear Nerve- Controls the downward and outward movement of the eye. Works closely with Cranial Nerves 3 & 6. Can cause vertical diplopia (double vision). Weakness of downward gaze can cause difficulty in descending stairs.
Cranial Nerve 5	Motor and sensory nerve-Trigeminal Nerve-Carries sensory information from most of the head, neck, sinuses, and face. Also carries sensory information for ear and tympanic membrane. Provides motor supply to the muscles of masticulation (chewing) and to some of the muscles on the floor of the mouth. Provides motor supply to tensor tympani (small muscle in the middle ear which tenses to protect the eardrum).
Cranial Nerve 6	Motor nerve-Abducens Nerve- Controls the outward movement of the eye.
Cranial Nerve 7	Sensory and motor nerve-Facial Nerve- Supplies the muscles of facial expression. Supplies posterior belly of digastric muscle (small muscle on underside of jaw). Supplies Stylohyoid muscle (used in swallowing). Supplies stapedius muscle (middle ear). Controls taste sensations from the anterior 2/3 of the tongue.
Cranial Nerve 8	Sensory nerve- Vestibulocochlear Nerve- controls hearing and balance. Vestibular nerve receives positional information. Cochlear nerve transmits information on sound to the brain.
Cranial Nerve 9	Sensory and motor nerve-Glossopharyngeal Nerve- controls some muscles used in swallowing including movement and sensation of throat, nasal passages and tongue. Controls taste from the posterior one third of tongue.
Cranial Nerve 10	Sensory and motor nerve- Vagus Nerve- controls muscles of the pharynx and larynx. Processes sensory information from external ear, pharynx, larynx and viscera. Serves the throat, nasal passages, heart lungs and stomach.

Cranial Nerve 11      Motor nerve-Spinal/ Accessory-controls muscles used in head and shoulder movement.

Cranial Nerve 12      Motor nerve-Hypoglossal Nerve-controls muscles of the tongue. Can cause speech problems, ipsilateral (single sided) movement of the tongue and thick speech.

Compiled by Jennifer Garbuzinski

## Remembering the 12 Cranial Nerves, from the MCC Paramedic Program

<b>Acronym</b>	<b>Cranial Nerve</b>	<b>Roman Numeral</b>	<b><u>M</u>otor <u>S</u>ensory <u>B</u>oth</b>	<b>Function</b>
ON	Olfactory	I	SOME	Smell
OLD	Optic	II	SAY	Vision (retinal)
OLYMPUS	Oculomotor	III	MARRY	Pupil constr/Eye mvmnt
TINY	Trochlear	IV	MONEY	Eye mvmnt
TOPS	Trigeminal	V	BUT	Sensory face, mastication
A	Abducens	VI	MY	Eye mvmnt
FIN	Facial	VII	BROTHER	Face motor, taste ant. 2/3
AND	Auditory	VIII	SAYS	Hearing
GERMAN	Glossal-pharyngeal	IX	BAD	gag sense, swallowing
VIEWED	Vagus	X	BUSINESS	Parasympathetic, cough
SOME	Spinal accessory	XI	MARRY	Shrug shoulders
HOPS	Hypopharyngeal	XII	MONEY	Tongue protrusion

Presented by Diane Breton at the 1<sup>st</sup> Moebius Syndrome Conference in Los Angeles in 1994

Courtney of Monroe Community College, State University of New York