<table>
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<th>Cranial Nerve</th>
<th>Name</th>
<th>Sensory, Motor, or Both</th>
<th>Function/Location</th>
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</table>
| CN I         | Olfactory             | Sensory                 | ♦ Sense of Smell or Olfaction  
♦ DOES NOT pass thru Thalamus but goes directly to Temporal Lobe of Cerebrum      |
| CN II        | Optic                 | Sensory                 | ♦ Vision/Sight  
♦ Impulse from Retina (rods & cones) to Thalamus (Diencephalon) to Occipital Lobe of Cerebrum |
| CN III       | Oculomotor            | Motor (primarily)       | ♦ Eye movement (innervates extrinsic muscles of Eye: 5 of them)  
♦ Parasympathetic Innervation - smooth muscles - intrinsic eye muscles (ciliary muscles move lens & circular muscles move iris - constrict pupil)  
♦ CN of Midbrain |
| CN IV        | Trochlear             | Motor (primarily)       | ♦ Eye movements  
♦ CN of the Midbrain  
♦ Smallest of 12 Cranial Nerves |
| CN V         | Trigeminal            | Both                    | ♦ Sensory = Face, Teeth, Nose, Lips, Tongue (NOT TASTE)  
♦ Motor = Chewing (Innervates Muscles of Mastication; digastric)  
♦ Largest of 12 Cranial Nerves  
♦ Pathology - - Trigeminal Neuralgia/Tic Douloureux (intense, lancinating facial pain)  
♦ CN of Pons |
| CN VI        | Abducens              | Motor                   | ♦ Eye movement (innervates last 6 extrinsic eye muscles) - Abduction of the Eye  
♦ CN of Pons |
| CN VII       | Facial                | Both                    | ♦ Sensory = Taste  
♦ Motor = Muscles of Facial EXPRESSION  
♦ Parasympathetic Innervation - glands/secretions (sublingual, lacrimal, nasal, palatine)  
♦ Pathology - - Bell's Palsy (flaccid, unilateral paralysis of facial muscles - droopiness, decrease salivation, dry-open eye)  
♦ CN of Pons |
| CN VIII      | Acoustic or Vestibulocochlear | Sensory             | ♦ Sense of Hearing & Equilibrium (Balance)  
♦ CN of Medulla Oblongata & Pons |
| CN IX        | Glossopharyngeal      | Both                    | ♦ Sensory = Pharynx & Posterior Tongue (gag reflex & taste)  
♦ Motor = Swallowing - muscles of Pharynx  
♦ Parasympathetic Innervation - Parotid gland - secretes saliva (major salivary gland) |
## NEUROLOGY - CRANIAL NERVES

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| CN X          | Vagus       | Both                    | ♦ Parasympathetic Innervation - 80-85% of all Parasympathetic output - - viscera/organs of thoracic & abdominal cavities plus lungs (heart, blood vessels, respiratory, GI tract, etc.)  
♦ Sensory = Larynx & Pharynx  
♦ Motor = Swallowing & Speech (muscles of larynx & pharynx)  
♦ CN of Medullar Oblongata |
| CN XI         | Spinal Accessory | Motor                    | ♦ Innervates SCM and Trapezius (coordinates head/neck movements); also swallowing |
| CN XII        | Hypoglossal  | Motor                    | ♦ Tongue Muscles (swallowing & speech) |

### SUMMARY:

**SENSORY ONLY ⇒**  
CN I, II, VIII (Olfactory, Optic, Auditory/Vestibulocochlear)

**RELATED TO EYE (vision or movement) ⇒**  
CN II, III, IV, VI (Optic, Oculomotor, Tochlear, Abducens)

**CARRY PARASYMPATHETIC FIBERS ⇒**  
CN III, VII, IX, X (Oculomotor, Facial, Glossopharyngeal & VAGUS)  
VAGUS nerve carries 80-85% of Parasympathetic of ANS

**TASTE ⇒**  
CN VII and IX (Facial and Glossopharyngeal)

**SWALLOWING ⇒**  
CN IX, X, XI, XII - Last 4 (Glossopharyngeal, Vagus, Spinoaccessory, Hypoglossal)

### Other Notes:

♦ CN part of PNS  
♦ 10 of 12 originate from Brainstem (Midbrain, Pons or Medulla Oblongata)  
♦ All pass through foramina in the cranium