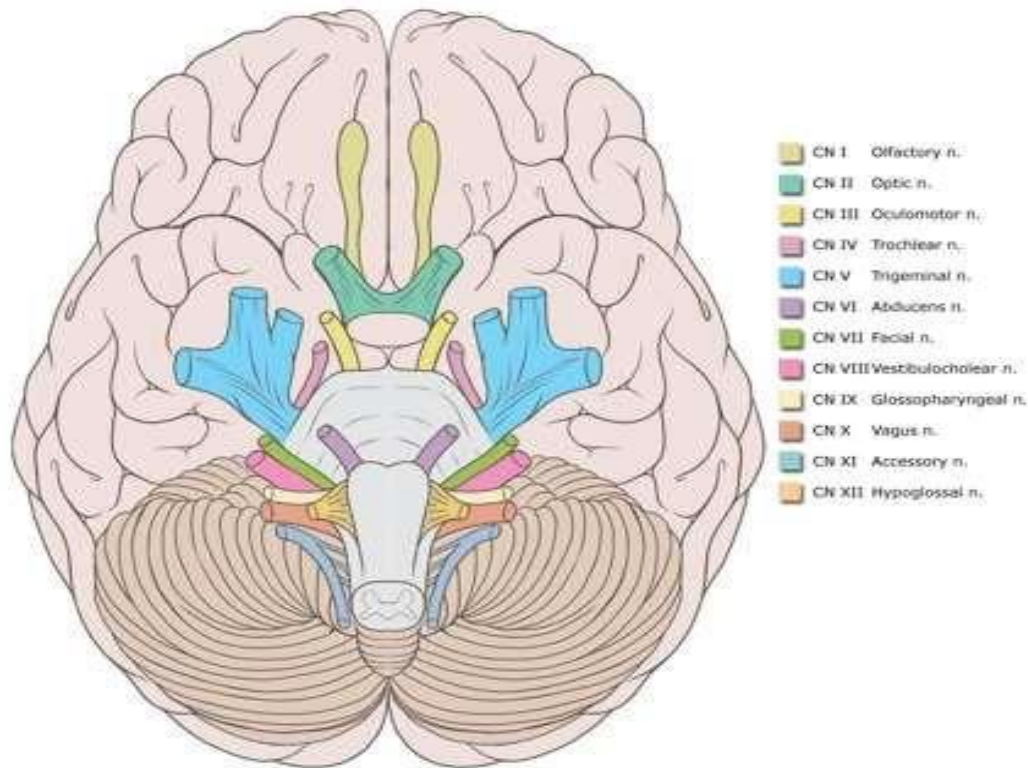


Cranial nerve evaluation is an important part of a neurologic exam. There are some differences in the assessment of cranial nerves with different species, but the general principles are the same. You should know the names and basic functions of the 12 pairs of cranial nerves. This PowerPage reviews the cranial nerves and basic brain anatomy which may be seen on the VTNE.



The 12 Cranial Nerves:

CN I - Olfactory Nerve

- Mediates the sense of smell, observed when the pet sniffs around its environment

CN II - Optic Nerve

Carries visual signals from retina to occipital lobe of brain, observed as the pet tracks an object with its eyes. It also causes pupil constriction.

The Menace response is the waving of the hand at the dog's eye to see if it blinks (this nerve provides the vision; the blink is due to cranial nerve VII)

CN III - Oculomotor Nerve

- Provides motor to most of the extraocular muscles (dorsal, ventral, and medial rectus) and for **pupil constriction**
- Observing pupillary constriction in PLR

CN IV - Trochlear Nerve

- Provides motor function to the dorsal oblique extraocular muscle and rolls globe medially

CN V – Trigeminal Nerve – Maxillary, Mandibular, and Ophthalmic Branches

- Provides motor to muscles of mastication (chewing muscles) and sensory to eyelids, cornea, tongue, nasal mucosa and mouth.

CN VI- Abducens Nerve

- Provides motor function to the lateral rectus extraocular muscle and retractor bulbi
- Examined by touching the globe and observing for retraction (also tests V for sensory)
Responsible for physiologic nystagmus when turning head (also involves III, IV, and VIII)

CN VII – Facial Nerve

- Provides motor to muscles of facial expression (eyelids, ears, lips) and sensory to medial pinna (ear flap). Also taste to rostral tongue.
- Palpebral response – motor for the blink reflex when touching medial canthus (also tests V for sensory)
- Observe for facial paralysis, deviation of nose to one side, or droopy lips
- Schirmer tear test (this nerve also helps with tear production)

CN VIII – Vestibulocochlear Nerve

- Sensory for hearing and head position
 - A head tilt or nystagmus may suggest dysfunction of this nerve (vestibular disease or inner ear disease)

CN IX – Glossopharyngeal Nerve

- Innervates the pharynx for swallowing (with X). Also innervates some salivary glands and provides taste innervation from caudal tongue
- Examine by eliciting a gag reflex and observing for dysphagia (difficulty swallowing).

CN X – Vagus Nerve

- Innervates the larynx, esophagus, and pharynx. Also provides parasympathetic innervation to the heart and viscera
- Tested with a gag reflex (along with CN IX)

CN XI – Spinal Accessory Nerve

- Innervates cranial cervical (neck) muscles

CN XII – Hypoglossal Nerve

- Motor to the tongue (causes tongue movement)

Reference:

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