CRANIAL NERVE ASSESSMENT

There are 12 cranial nerves:
- Cranial nerve (CN) I: Olfactory nerve*
- CN II: Optic nerve
- CN III: Oculomotor nerve
- CN IV: Trochlear nerve
- CN V: Trigeminal nerve
- CN VI: Abducens nerve
- CN VII: Facial nerve
- CN VIII: Vestibulocochlear nerve
- CN IX: Glossopharyngeal nerve
- CN X: Vagus nerve
- CN XI: Accessory nerve
- CN XII: Hypoglossal nerve
* Rarely evaluated in clinical practice

The following tests are done to assess cranial nerves and nerves involved in the response or reflex; afferent (A) and efferent (E) nerves are listed.
- Menace response (Figure 1): A: CN II (retina); E: CN VI, CN VII; in addition, the thalamus, cerebrum, and cerebellum are involved in the response and its pathway
- Palpebral reflex (Figure 2): A: CN V; E: CN VII
- Vibrissae (and maxilla) response (Figure 3): A: CN V (maxillary branch); E: CN VII; this response also involves the cerebrum
- Mandibular touch: A: CN V (mandibular branch); E: CN VII
- Auricular reflex (Figure 4): A: CN VII; E: CN VII
- Corneal reflex: A: CN V (ophthalmic branch); E: CN VI
  » The cornea is touched lightly with a moist cotton tip applicator; the eye should retract.
- Pupillary light reflex (PLR): A: CN II; E: CN III
  » Performed in a dark room to assess anisocoria (unequal pupil size)
  » Dark and light environments can help determine which pupil is miotic/mydriatic (constriction/dilation)
  » Indirect PLR is usually not as strong as direct PLR
- Oculocephalic reflex, normal physiologic nystagmus (Figure 5): A: CN VIII; E: CN III, IV, & VI
  » Palpation of the head for symmetry: Muscles of mastication are innervated by CN V (mandibular motor branch); muscles of facial expression are innervated by CN VII
  » Assess for asymmetry, muscle atrophy, and droopy lips
- Gag reflex (Figure 6): A: CN IX; E: CN X
- Palpation of the neck to assess muscle atrophy: E: CN XI (difficult to assess)
- Tongue movement & symmetry (Figure 7): E: CN XII