

Assessing Cranial Nerves

Cranial Nerve	Function	How do you assess?
CN I: Olfactory Nerve	Sensory nerve which carries information about smell to the brain	<ul style="list-style-type: none"> - Have patient close their eyes and occlude on nostril. - Ask patient to identify a familiar scent. - Occlude other nostril and repeat previous steps with a different scent.
CN II: Optic Nerve	Sensory nerve which brings visual information to the brain	<ul style="list-style-type: none"> - Cover 1 eye and ask patient to read letters on Snellen chart until they are no longer able to see them. Repeat procedure while covering other eye. - Check pupillary reaction by shining light of penlight into patient's eyes, 1 eye at a time. - Check direct and consensual pupillary responses. - Test visual fields by asking patient to identify number of fingers you are holding up in each of the 4 visual field quadrants
CN III: Oculomotor Nerve	Motor nerve which enables eye movement, constriction of the pupil (miosis) and lens accommodation	<ul style="list-style-type: none"> - Assess pupillary responses as described in step 3. - Check accommodation by moving your finger toward patient's nose. The pupils should constrict and the eyes should converge. - Check extraocular movements by having patient look up, down, laterally, and diagonally. The movements should be smooth and equal bilaterally.
CN IV: Trochlear Nerve	Motor nerve which plays a role in eye movement.	<ul style="list-style-type: none"> - Ask patient to look down and laterally. The movements should be smooth and equal bilaterally.
CN V: Trigeminal Nerve	Mixed nerve which supplies sensation to the facial skin	<ul style="list-style-type: none"> - Ask patient to hold their mouth open while you try to close it and ask them to move jaw laterally against your hand. The patient should perform both motions against resistance. - With patient's eyes closed, touch patient's face with a cotton ball and ask them to identify area being touched. In patients who are comatose, you can brush the cornea with a wisp of cotton to elicit an eye blink in a patient with an intact corneal reflex.
CN VI: Abducens Nerve	Motor nerve which plays a role in eye movement	<ul style="list-style-type: none"> - Ask patient to move their eyes from side to side. The movement should be smooth and equal bilaterally
CN VII: Facial Nerve	Mixed nerve involved in facial expression, secretion of glands and taste sensation.	<ul style="list-style-type: none"> - Ask patient to smile, frown, raise their eyebrows, and puff out their cheeks. The patient's face should remain symmetrical during these movements. - Have patient identify salt or sugar placed on their tongue.
CN VIII: Vestibulocochlear Nerve	Sensory nerve responsible for hearing, balance, and motion.	<ul style="list-style-type: none"> - Perform Weber test: Strike a tuning fork and place vibrating stem of fork on top of patient's head. Instruct patient to indicate when they no longer hear note. - Perform Rinne test: Strike a tuning fork and place vibrating stem of fork on patient's mastoid process. Instruct patient to indicate when they no longer hear note.

CN IX: Glossopharyngeal Nerve	Mixed nerve which enables swallowing, salivation, taste sensation and general oral cavity sensations.	- Touch back of patient's throat with a tongue depressor or cotton-tipped applicator to elicit a gag reflex. - Confirm ability to swallow by asking patient to swallow a sip of water.
CN X: Vagus Nerve	Mixed nerve involved in gland secretion, peristalsis, phonation, taste, visceral and general sensation of the head, thorax and abdomen.	- Evaluate gag reflex and ability to swallow as described above (step 10) in testing of cranial nerve IX. - Assess for normal voice quality.
CN XI: Accessory Nerve	Motor nerve which enables phonation and movements of the head and shoulders.	- Have patient shrug shoulders against resistance and turn head from side to side against resistance. The patient should make both movements smoothly and symmetrically.
CN XII: Hypoglossal Nerve	Motor nerve which enables tongue movements.	- Ask patient to stick out their tongue and move it inside their mouth from cheek to cheek. The movements should be smooth and equal bilaterally. - Assess for normal verbal articulation by asking patient to recite alphabet

Resources:

1. Dynamic Health – Assessing Cranial Nerves
2. Video - Cranial Nerve Examination Nursing | Cranial Nerve Assessment I-XII (1-12)- Registered Nurse RN - <https://www.youtube.com/watch?v=oZGFrwogx14>
3. Lewis Text – Chapter 60 – pages 1473-1478

Cranial Nerve Assessment

Cranial Nerves	Normal/Abnormal & Notes
CNI: Olfactory Nerve	
Identifies scent	
CN II: Optic Nerve	
Snellen Chart	
Pupillary Reaction	
Peripheral Vision	
CN III: Oculomotor	
Accommodation	
Pupillary constriction	
Extraocular movements	
CN IV: Trochlear	
CN nerve III, IV, & VI are tested together.	
CN V: Trigeminal	
Opens jaw & clenches teeth	
Feels cotton on face	
CN VI: Abducens	
Moves eyes side to side	
CN VII: Facial	
Smile, frown, raise eyebrows, puff cheeks	
Identify salt/ sugar	
CN VIII: Vestibulocochlear	
Rinne Test	
Weber Test	
CN IX: Glossopharyngeal	
Assess gag reflex	
Swallows	
CN X: Vagus	
Assess gag reflex (above)	
Voice quality	
CN XI: Accessory	
Shrug shoulders	
Turn head against resistance	
CN XII: Hypoglossal	
Stick out tongue	
Verbal articulation	

