# Neurological Examination Checklist

Instructions: *Italicized information indicates what the student should be verbalizing.*

The neurological exam consists of several elements including assessment of the cranial nerves, sensory and motor systems, coordination and gait, and deep tendon reflexes. Advanced practice tests are not routinely performed but would be conducted based on relevant subjective/objective findings.

Students are expected to document assessment of the neurological exam, as appropriate. For example, CN VII (facial) reveals asymmetrical raising of eyebrows with left side impaired, light touch impaired to left side of face.

Rapid alternating movements and point to point of upper and lower extremities intact. No abnormalities of gait noted. Patient performs tandem walking, toe/heel walking, and shallow knee bend with ease. Romberg and pronator drift negative. No tics, tremors or fasciculations noted. Muscle tone and bulk symmetrical. Strength upper and lower equal and strong. Light touch and pain sensation intact bilaterally. Temperature discrimination not tested. Proprioception and vibration intact bilaterally. Discriminative tests not performed. Deep tendon reflexes 2+ upper and lower extremities.

| | **Performed** | **Verbalized** |
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| ***Washes hands FIRST and dons appropriate personal protective equipment.*** | **Y / N** | |
| ***Introduces self to patient using first and last name, including role.*** | | **Y / N** |
| **Notes general appearance and vital signs.** | | **Y / N** |
| **Positions table appropriately (table should be flat).** | **Y / N** | |
| **Cranial Nerves** | | |
| CN I, olfactory: assessment of smell | | |
| Check nasal patency and sense of smell in each nostril separately<br>*Patient occludes 1 nare at a time. A different scent is used for each nare.* | **Y / N** | **Y / N** |
| CN II, optic: assessment of visual acuity, visual field screening, and examination of optic fundi | | |
| Visual acuity (OD, OS, OU) with correction if needed<br>*Use Snellen chart for far vision and Jaeger chart for near vision. Ensure patient is standing at correct distant from chart (Snellen) or holding at correct distance from head (Jaeger).* | **Y / N** | **Y / N** |
| Visual field screening by confrontation<br>*Stand in front of patient and ask patient to look in your eyes. Put both hands lateral to patient's ears. Wiggle fingers and bring hands forward one hand at a time until patient can visualize. Repeat this in upper and lower temporal quadrants. If you find a defect, check nasal fields--have patient cover one eye at a time. Wiggle fingers of one hand on same side as eye that is covered and move from ear across face toward opposite ear.* | **Y / N** | **Y / N** |

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| Inspect optic fundi<br>*Refer to Eye skill sheet, as needed* | **Y / N** | **Y / N** |
| CN III, oculomotor; IV, trochlear; VI, abducens: assessment of extraocular movements in all areas of gaze and convergence | | |
| Extraocular movements<br>*Test lateral, upper, and lower temporal quadrants by making a large H in air to lead patient's gaze.* | **Y / N** | **Y / N** |
| Convergence<br>*Ask patient to follow your finger to nose. Instruct patient to keep head still and move eyes only.* | **Y / N** | **Y / N** |
| CN V, trigeminal: assessment of both motor and sensory components | | |
| Motor: temporal and masseter muscles<br>*Place fingers over temporal and then masseter muscles, and ask patient to clench teeth, note strength of contraction.* | **Y / N** | **Y / N** |
| Sensory: light touch sensation on forehead, cheeks, and jaw<br>*Have patient close eyes, use a fine wisp of cotton, and gently touch face in areas of three divisions of nerve randomly—do not stroke.* | **Y / N** | **Y / N** |
| CN V, trigeminal; CN VI abducens: Advanced practice skill, students to describe. | | |
| Corneal reflex<br>*Approach from side; lightly touch cornea with fine cotton wisp as patient looks up and away.* | **Y / N** | **Y / N** |
| CN VII, facial: assess symmetry of maneuvers | | |
| Raise eyebrows, frown, close eyes, show teeth, smile, and puff cheeks, close eyes tightly and prevent examiner from opening them<br>*Observe face at rest and during conversation, then ask patient to perform the maneuvers.* | **Y / N** | **Y / N** |
| CN VIII, acoustic (vestibulocochlear): some resources recommend Weber and Rinne | | |
| Assess hearing<br>*Use finger rub or whispered voice.* | **Y / N** | **Y / N** |
| CN IX, glossopharyngeal; X, vagal: assessment voice quality, movement of soft palate (should be symmetrical), and gag reflex | | |
| Voice quality, movement of soft palate<br>*Listen to patient's voice, then have him/her open mouth and say "Ah" while you look with penlight for soft palate and pharynx movement.* | **Y / N** | **Y / N** |
| Gag reflex<br>*Warn patient what you are going to do, then lightly touch back of throat with tongue blade. Be aware that some patients have sensitive gag reflexes.* | **Y / N** | **Y / N** |
| CN XI, spinal accessory: assessing strength and symmetry | | |
| Shrug shoulders and turn head<br>*Place hands on patient's shoulders and ask them to shrug; place hand on patient's cheek, and have them turn head against your hand. Use light resistance for both.* | **Y / N** | **Y / N** |

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| CN XII, hypoglossal: | | |
| Fasciculations, symmetry, deviation, movement, and strength of tongue<br>*Listen to patient speak and have them say: light, tight, dynamite; inspect tongue in mouth and then protruded. Have patient move tongue from side to side.*<br>*In ambiguous cases, have patient push tongue against inside of each cheek and palpate externally for strength.* | **Y / N** | **Y / N** |
| **Coordination and Gait** | | |
| **Upper Extremity** | | |
| Rapid alternating movements<br>*Patient strikes hand on thigh, turns it over, and strikes thigh with back of hand. Patient should do this as rapidly as possible. Perform bilaterally at the same time.* | **Y / N** | **Y / N** |
| Point-to-point movements<br>*Patient touches your finger then his/her own nose alternately several times while you move your finger around. Watch for smooth and accurate movements. Perform bilaterally.* | **Y / N** | **Y / N** |
| **Lower Extremity** | | |
| Rapid alternating movements<br>*Practitioner holds their hand under the patient's feet, patient taps hands as quickly as possible. Perform bilaterally* | **Y / N** | **Y / N** |
| *Point to point movements*<br>*Have the patient place one heel on opposite their opposite knee and run it down their shin to their great toe. Watch for smooth and accurate movements. Perform bilaterally.* | **Y / N** | **Y / N** |
| **Gait** | | |
| Walk across room<br>*Ask patient to take a few steps away from you, then turn and walk back. Observe posture, balance, arm swing, and leg movement.* | **Y / N** | **Y / N** |
| Tandem walk<br>*Have them walk heel to toe* | **Y / N** | **Y / N** |
| Walk on toes and heels<br>*Have patient walk on toes for a few steps, turn around, and walk back on heels* | **Y / N** | **Y / N** |
| Hop in place, or shallow knee bend<br>*Elderly or less robust patients can rise from a sitting position and step up onto a sturdy stool to test these motions.* | **Y / N** | **Y / N** |
| **Stance** | | |
| Romberg<br>*Patient stands with feet together and closes eyes. Observe ability to maintain upright posture without sway.* | **Y / N** | **Y / N** |
| Pronator drift<br>*Patient stands with both arms outstretched, palms up, eyes closed for 20–30 seconds, then gently tap arms downward. Position yourself to grab a potentially unsteady patient.* | **Y / N** | **Y / N** |
| **Motor** | | |
| Observe body position during movement and at rest<br>*Generally integrated with rest of exam.* | **Y / N** | **Y / N** |
| Tremors, tics, or fasciculations<br>*Observe face; ask patient to hold hands out for a few seconds.* | **Y / N** | **Y / N** |

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| Inspect muscle size and contour, note symmetry and any atrophy<br>*Muscles should be symmetrical* | **Y / N** | **Y / N** |
| Assess muscle tone, looking for resistance to passive stretch | | |
| Upper extremities<br>*Patient should be relaxed. Grasp hand with your hand, support patient's elbow, and flex/extend fingers, wrist, and elbow, using a circular motion for shoulder--this can all be done with one smooth motion.* | **Y / N** | **Y / N** |
| Lower extremities<br>*Place one hand on thigh; grasp foot with other hand and flex/extend knee and ankle on each side.* | **Y / N** | **Y / N** |
| Assess muscle strength. Perform bilaterally and compare. | | |
| Elbows: flexion/extension<br>*Elbows are flexed, thumbs toward patient; apply resistance at wrists while patient flexes then extends elbow.* | **Y / N** | **Y / N** |
| Wrists: extension<br>*Patient makes fist, arms out in front; try to push down on hands while patient resists.* | **Y / N** | **Y / N** |
| Grip strength<br>*Place middle finger on top of index finger; patient squeezes fingers as hard as possible, while you attempt to withdraw fingers. Do both sides simultaneously for comparison.* | **Y / N** | **Y / N** |
| Finger abduction<br>*Patient spreads fingers apart wide; try to force them together by pressing on lateral aspect of index and fourth fingers* | **Y / N** | **Y / N** |
| Thumb opposition<br>*Patient touches thumb to little finger; hook your finger under thumb to resist.* | **Y / N** | **Y / N** |
| Hips: flexion and extension<br>*With patient seated, place your hand on thigh, ask patient to raise leg against resistance. Then slip your hand under the patients thigh and ask patient to push down. Perform bilaterally--can do flexion and extension on opposite sides simultaneously.* | **Y / N** | **Y / N** |
| Hips: abduction/adduction<br>*With patient seated, legs relaxed, place your hands on lateral aspect of both knees and offer resistance to further abduction then move hands to medial aspect of knees and ask patient to adduct against resistance.* | **Y / N** | **Y / N** |
| Knees: flexion/extension<br>*With patient seated, place hands on shins and ask patient to straighten knee against resistance, then curl fingers around to grasp lower leg and ask patient to flex against resistance.* | **Y / N** | **Y / N** |
| Ankles: dorsiflexion/plantar flexion<br>*Place hands beneath both feet; ask patient to press down like stepping on a gas pedal, then move fingers to dorsal aspect of foot and ask patient to pull up against resistance.* | **Y / N** | **Y / N** |

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| **Sensory System** | | |
| Test for light touch generally and pain distally.<br>*Explain steps and expected responses. Touch very lightly with cotton wisp and do not stroke skin. Next, instruct patient to close eyes and touch with broken swab.*<br>*Vary pace of testing so patient cannot anticipate movements Stimuli should routinely be applied lightly, and areas should be tested randomly, rather than in a predictable pattern.* | **Y / N** | **Y / N** |
| Compare symmetry on both sides of body<br>*Basic testing should sample major functional subdivisions of sensory system. Suggested pattern: Shoulders (C4), inner and outer aspect of forearms (C6/T1), thumbs and fourth fingers (C6/C8), both thighs (L2), medial and lateral aspects of calves (L4/L5), fifth toes (S1).* | **Y / N** | **Y / N** |
| Temperature<br>*Use test tubes filled with warm and cold water; can omit if pain sensation is normal* | **Y / N** | **Y / N** |
| Proprioception: position<br>*The examiner grasps great toe, holding it by its sides; move toe up and down several times, then pause and have patient identify position. If abnormal, move proximally for further testing.* | **Y / N** | **Y / N** |
| Vibration<br>*Patient closes eyes; strike a tuning fork and place it over distal interphalangeal (IP) joint of finger and IP joint of great toe. Ask patient to state when it stops.* | **Y / N** | **Y / N** |
| **Discriminative sensations** | | |
| Stereognosis<br>*Identify an object by feeling it.* | **Y / N** | **Y / N** |
| Graphesthesia<br>*Identify a number drawn in palm with blunt end of a pen.* | **Y / N** | **Y / N** |
| Two-point discrimination<br>*Find distance where one point of touch is perceived when two points of pressure are applied.* | **Y / N** | **Y / N** |
| Point localization<br>*Touch patient's body with patient's eyes closed; patient opens eyes and points to place touched.* | **Y / N** | **Y / N** |
| Extinction<br>*Simultaneously touch corresponding areas on body and ask patient where touch is felt* | **Y / N** | **Y / N** |
| **Deep Tendon Reflexes** | | |
| Biceps (assesses C5-6)<br>*Patient's arm is flexed, palms down; with your thumb over biceps tendon, strike thumb.* | **Y / N** | **Y / N** |
| Triceps (assesses (C7)<br>*Patient's arm is down or supported by you; strike tendon above elbow.* | **Y / N** | **Y / N** |
| Brachioradialis (assesses C6)<br>*Patient's forearm partly pronated; strike radius 1–2" above wrist.* | **Y / N** | **Y / N** |
| Abdominal (assesses T7-12, not regularly performed)<br>*Lightly, briskly stroke sides of abdomen in an X pattern toward umbilicus* | **Y / N** | **Y / N** |

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| Knee (assesses L4)<br>*Patient's knee flexed; tap patellar tendon just below patella.* | **Y / N** | **Y / N** |
| Ankle (assesses S1)<br>*Holding patient's foot in slight dorsiflexion, strike Achilles tendon* | **Y / N** | **Y / N** |
| **Special Techniques** | | |
| Meningeal signs<br>*Patient supine; check neck mobility.* | **Y / N** | **Y / N** |
| Brudzinski sign:<br>*Flex neck, watch for flexion of hips and knees.* | **Y / N** | **Y / N** |
| Winging of scapula (most commonly due to damage or impaired innervation to the serratus anterior muscle).<br>*Ask patient to extend both arms and push against a wall.* | **Y / N** | **Y / N** |
| Kernig sign:<br>*Flex leg at hip and knee, straighten leg, look for pain and increased resistance.* | **Y / N** | **Y / N** |
| Straight-leg raise<br>*Patient supine, passively raise leg, then dorsiflex foot.* | **Y / N** | **Y / N** |