# Neurological Exam

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3+ (clinical years): Disease Correlation</th>
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<tbody>
<tr>
<td><strong>Do</strong></td>
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<tr>
<td><strong>1. Mental Status</strong></td>
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<td>• Admission or clinic note on a patient with neurological symptoms</td>
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<td>• Assess level of alertness, orientation to person, place and time, appropriateness of responses</td>
<td>• Folstein Mini-Mental (administer from card)</td>
<td>• How to give a brief or full clinical presentation</td>
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<td>• Speech: grossly normal or abnormal, dysarthria vs. aphasia</td>
<td>• Glasgow Coma scale (administer from card)</td>
<td><strong>Know</strong></td>
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<td><strong>2. Cranial Nerves</strong></td>
<td>• Questions for thought disorder, logic, hallucinations, judgment</td>
<td>• Clinical applications of year one and two</td>
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<td>• Visual Acuity – likely done with HEENT exam</td>
<td>• Questions for mood disorder, mood ranking, suicidal ideation</td>
<td>• Asterixis as seen in liver disease, uremia and hypercapnia</td>
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<td>• Pupillary light reflex</td>
<td>• Exam for expressive, receptive or conduction aphasia</td>
<td>• Typical onset and course of common conditions: stroke, dementia, tumor, infection, seizure, migraine</td>
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<td>• Eye movements</td>
<td><strong>2. Cranial Nerves</strong></td>
<td>• Clinical picture of Bell’s Palsy</td>
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<tr>
<td>• Hearing</td>
<td>• Visual Fields</td>
<td>• Risk factors for stroke</td>
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<td>• Facial strength – smile, eye closure</td>
<td>• Exam for nystagmus</td>
<td>• Different categories of stroke</td>
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<td>• Strength - Shoulder/finger - abduction, thumb opposition, elbow/wrist/hip/knee/ankle - flexion and extension, grasp</td>
<td>• Observe for fasciculations</td>
<td>• Brain herniation syndromes</td>
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<td>• Gait – casual, tandem, heel-toe, toes then heels</td>
<td>• Muscle tone: spasticity vs. rigidity vs. paratonia</td>
<td>• Types of dementia and clinical presentations</td>
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<td><strong>4. Sensory System – along dermatomes (closed eyes)</strong></td>
<td>• Medical Research Council Strength scale</td>
<td>• Differential diagnosis of dementia</td>
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<tr>
<td>• Assess pain sensation with sharp broken cotton swab, compare with cotton tipped end of swab and elicit “sharp or dull” response in</td>
<td><strong>5. Reflexes</strong></td>
<td>• Differential diagnosis of seizures</td>
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<tr>
<td>• Ask patient to respond to light touch with wisp of cotton swab</td>
<td>• Reinforcement (Jendrassik maneuver) finger-hooking</td>
<td><strong>Educators-4-CARE Benchmarks 2009-10, v1</strong></td>
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<tr>
<td>• Test vibration sense with 128Hz tuning fork tapping with reflex hammer and placing on distal interphalangeal joint of finger and toe. If vibration cannot be differentiated from pressure move up extremity proximally (wrist, elbow, medial malleolus, patella,</td>
<td>• Frontal release: glabellar, snout, routing, palmar-mental</td>
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<td><strong>6. General Exam</strong></td>
<td>• Test for meningismus, flexion resistance vs. rotation</td>
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<td>• Listen for bruits at neck</td>
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<td><strong>ASIS, calvicles, spinous processes</strong></td>
<td><strong>Know - Localization: Correlation of findings with anatomy</strong></td>
<td><strong>Classification of seizure types: partial vs. generalized, simple partial, complex partial, etc.</strong></td>
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| • Test proprioception (position sense) hold big toe away from other toes between thumb and index finger. Demonstrate up and down clearly. Elicit up or down response multiple times bilaterally with patient’s eyes closed | • Localize lesions for common groups of neurological symptoms  
  ○ Diffuse peripheral neuropathy  
  ○ Spasticity (Upper Motor Neuron)  
  ○ Rigidity (Basal Ganglia)  
  ○ Upper motor vs. lower motor facial palsy  
  • Circle of Willis  
  • Hemisphere and brainstem blood supply  
  • Which symptoms indicate anterior or posterior ischemia  
  • Neuroanatomy of coma  
  • Types of aphasia  
  • Three types of increased tone  
  • Upper vs. lower motor neuron syndrome  
  • What makes a reflex hyperactive  
  • Types of abnormal gait  
  • Different Types of Tremor  
  • Signs of cerebellar disease  
  • Polynuropathy, vs. mono multiplex, radiculopathy  
  • Major types of dystrophy, presentation and genetics  
  • Main etiologies for peripheral neuropathy | • Symptoms and Signs of Parkinson Disease  
 • Clinical spectrum and differential diagnosis of ALS  
 • Contraindications to and complications of performing a lumbar puncture  
 • Procedure for performing lumbar puncture  
 • Normal values for common measurements of CSF  
 • CSF patterns in various diseases  
 • Clinical presentation of Guillain-Barré syndrome  
 • Clinical presentation and treatment of myasthenia gravis  
 • Main etiologies for peripheral neuropathy  
 • Types of headaches |
| • Coordination – Romberg test. Fine finger movements, finger –to–nose with patient arm fully extended | **Know**  
 • Neurologic exam is a complex multi-part exam that can be organized into sections of mental status, cranial nerves, motor, sensory and reflexes  
 • Reinforcement will help elicit diminished DTRs  
 • Scale for grading reflexes  
 • Dorsiflexion and plantar flexion  
 • Cranial Nerves II-XII  
 • Always demonstrate components of sensory exam with patient eyes open then proceed to test with his or her eyes closed  
 • The Medical Research Counsel (MRC) scale and realize that it is insensitive to fairly significant degrees of weakness | **Know**  
 • Types of headaches  
 • Main etiologies for peripheral neuropathy  
 • Classification of seizure types: partial vs. generalized, simple partial, complex partial, etc.  
 • Symptoms and Signs of Parkinson Disease  
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 • Main etiologies for peripheral neuropathy  
 • Types of headaches |

5. Reflexes  
• Proper use of tuning forks and reflex hammer  
• Deep tendon reflexes upper extremity - Biceps, brachioradialis, triceps reflexes  
• Deep tendon reflexes lower extremity – patellar, achilles  
• Test for Babinski

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