

TABLE 104-2 SYMPTOM LOCALIZATION IN THE CENTRAL NERVOUS SYSTEM

| SIGN OR SYMPTOM | LOCATION |
|--|--|
| CEREBRAL HEMISPHERES | |
| Unilateral weakness or sensory complaints | Contralateral cerebral hemisphere |
| Language dysfunction | Left hemisphere (frontal and temporal) |
| Spatial disorientation | Right hemisphere (parietal and occipital) |
| Anosognosia (lack of insight into deficit) | Right hemisphere (parietal) |
| Hemivisual loss | Contralateral hemisphere (occipital, temporal, and parietal) |
| Flattening of affect or social disinhibition | Bihemispheric (frontal and limbic) |
| Alteration of consciousness | Bihemispheric (diffuse) |
| Alteration of memory | Bihemispheric (hippocampus, fornix, amygdala, and mammillary bodies) |
| CEREBELLUM | |
| Limb clumsiness | Ipsilateral cerebellar hemisphere |
| Unsteadiness of gait or posture | Midline cerebellar structures |
| BASAL GANGLIA | |
| Slowness of voluntary movement | Substantia nigra and striatum |
| Involuntary movement | Striatum, thalamus, and subthalamus |
| BRAIN STEM | |
| Contralateral weakness or sensory complaints in the body with ipsilateral weakness or sensory complaints in the face | Midbrain, pons, and medulla |
| Double vision | Midbrain and pons |
| Vertigo | Pons and medulla |
| Alteration of consciousness | Midbrain, pons, medulla (reticular formation) |
| SPINAL CORD | |
| Weakness and spasticity (ipsilateral) and anesthesia (contralateral) below a specified level | Corticospinal and spinothalamic tracts |
| Unsteadiness of gait | Posterior columns |
| Bilateral (can be asymmetrical) weakness and sensory complaints in multiple contiguous radicular distributions | Central cord |

TABLE 104-3 SYMPTOM LOCALIZATION IN THE MOTOR UNIT*

| SIGN OR SYMPTOM | LOCATION |
|--|--|
| ANTERIOR HORN CELL | |
| Weakness and wasting with muscle twitching (fasciculation) but no sensory complaints | Anterior horn of spinal cord (diffuse or segmental) |
| SPINAL ROOT | |
| Weakness and sensory loss confined to a known radicular distribution (pain, a common feature, may spread) | Cervical, thoracic, lumbar, and sacral |
| PLEXUS | |
| Pain, weakness, and sensory loss in a limb; not limited to a single radicular or peripheral nerve distribution | Brachial and lumbosacral (may also be caused by polyradiculopathy) |
| NERVE | |
| Pain, distal weakness, and/or sensory changes confined to a single peripheral nerve distribution | Peripheral nerves (mononeuropathy) |
| Pain, distal weakness, and/or sensory changes affecting both sides symmetrically (usually starting in feet) | Peripheral nerves (polyneuropathy) |
| Pain, distal weakness, and/or sensory changes affecting scattered single peripheral nerve distributions | Peripheral nerves (mononeuropathy multiplex) |
| Unilateral special sensory loss | Cranial nerves I, II, V, VII, VIII, and IX |
| Unilateral facial weakness involving entire one half of face | Cranial nerve VII (ipsilateral) |
| NEUROMUSCULAR JUNCTION | |
| Progressive weakness with repeated use of a muscle; no sensory complaints | Ocular, pharyngeal, and skeletal |
| MUSCLE | |
| Proximal weakness; no sensory complaints | Diffuse and various patterns |

*Anterior horn cell and the peripheral nervous system.

TABLE 104-4 CATEGORIES OF NEUROLOGIC DISEASE

| DISEASE CATEGORY | EXAMPLE | DISEASE CATEGORY | EXAMPLE |
|---------------------|---|----------------------------|-------------------------------|
| GENETIC | | DEGENERATIVE | |
| Autosomal dominant | Huntington's disease | Central | Parkinson's disease |
| Autosomal recessive | Friedreich's ataxia | Central and peripheral | Amyotrophic lateral sclerosis |
| X-linked recessive | Duchenne muscular dystrophy | AUTOIMMUNE | |
| Mitochondrial | Progressive external ophthalmoplegia | Central demyelinating | Multiple sclerosis |
| Sporadic | Down syndrome | Peripheral demyelinating | Guillain-Barré syndrome |
| NEOPLASTIC | | Neuromuscular junction | Myasthenia gravis |
| Intrinsic | Glioblastoma | TOXIC AND METABOLIC | |
| Extrinsic | Metastatic melanoma | Endogenous | Uremic encephalopathy |
| Paraneoplastic | Cerebellar degeneration | Exogenous | Alcoholic neuropathy |
| VASCULAR | | OTHER STRUCTURAL | |
| Stroke | Thrombotic, embolic, lacunar, hemorrhagic | Trauma | Spinal cord injury |
| Structural | Arteriovenous malformation | Hydrodynamic | Normal pressure hydrocephalus |
| Inflammatory | Cranial arteritis | Psychogenic | Hysterical paraparesis |
| INFECTIOUS | | | |
| Bacterial | Meningococcal meningitis | | |
| Viral | Herpes encephalitis | | |
| Protozoal | Toxoplasmosis | | |
| Fungal | Cryptococcal meningitis | | |
| Helminthic | Cysticercosis | | |
| Prion | Creutzfeldt-Jakob disease | | |