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One of the important aspects of evaluating any neurologic patient is to determine the location of the lesion.

Table 1. Neurologic Signs and Lesion Location.

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Neurologic Sign

Location of Lesion

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Change in Behavior or Personality

Cerebral Cortex, Thalamus, Hypothalamus

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Seizures

Cerebral Cortex, Thalamus, Hypothalamus

Visual Dysfunction

Retina, Optic nerve, Visual pathways, Cerebral Cortex

Signs of Cranial Nerve Dysfunction

Anisocoria

Sympathetic or Parasympathetic innervation to the eye

Strabismus

CN III, CN IV, CN VI

Dropped jaw

CN V

Changed facial sensation

CN V

Localization of Lesions

Paralysis of eyelid, lip or ear

CN VII

Dysphagia

CN IX, CN X

Megaesophagus

CN X

Laryngeal paralysis

CN X, CN XI

Paralysis of tongue

CN XII

Head tilt, circling, nystagmus

CN VIII (vestibular system)

Deafness

CN VIII (auditory system)

Incoordination of the Head and Body

Cerebellum

Paraparesis or Paraplegia

TL Spinal Cord

Paralysis of one Limb

Peripheral nerve

Flaccid Anus, Tail and Bladder

Cauda Equina