LESION LOCATION ORGANIZED BY NEUROLOGIC ASSESSMENT & FINDINGS

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FINDINGS	LOCATION OF NEUROLOGIC DISEASE
MENTATION ASSESSMENT	
Mental Status	• **Brainstem** (see also decerebrate posture) • **Central vestibular system** • **Prosencephalon**
POSTURE ASSESSMENT	
Decerebellate Posture	• **Cerebellum** (normal mental status, opisthotonus, increased extensor tone in thoracic limbs, flexed pelvic limbs with reduced muscle tone)
Decerebrate Posture	• **Midbrain or pons** (severely affected mentation, increased extensor tone in all limbs, opisthotonus if cerebellar lesion present)
Schiff-Sherrington Posture	• **T3–L4 spinal cord segments** (increased tone in thoracic limbs; normal to reduced tone and paralysis of pelvic limbs)
GAIT ASSESSMENT	
Ataxia	• **Cerebellum:** Symmetric, truncal (bouncy gait/good muscle tone) • **Proprioceptive pathways:** Mild, usually bilateral • **Vestibular system:** Asymmetric, moderate
Circling	• **Prosencephalon:** Circles larger • **Vestibular system:** Circles smaller • Direction of circling is usually toward side with lesion
Paresis	• **Brainstem:** Paresis and ataxia ipsilateral to lesion • **Cauda equina:** Paraparesis • **Cerebrum:** Mild, almost unnoticeable paresis • **Cervical myelopathy (C1–C5 or C6–T2):** Tetraparesis • **Neuromuscular system:** Various grade of para- or tetraparesis (also muscular weakness, exercise intolerance) • **Thoracolumbar myelopathy (T3–L3 or L4–S3):** Paraparesis
CRANIAL NERVE ASSESSMENT	
Cranial Nerve Abnormalities	• **Brainstem:** Localized to part of brainstem where nucleus is located • **Central vestibular system** • **Peripheral nervous system:** May affect one nerve or be part of a polyneuropathy
POSTURAL REACTION ASSESSMENT	
Postural Reaction Deficits	• **Brainstem:** Ipsilateral to lesion • **Cauda equina:** Pelvic limbs • **Central vestibular system:** Ipsilateral to lesion • **Cerebrum/thalamus:** Contralateral to lesion • **C1–C5 or C6–T2 spinal cord segments:** All limbs (pelvic limbs may be more affected than thoracic limbs) • **T3–L3 or L4–S3 spinal cord segments:** Pelvic limbs • **Neuromuscular disease:** Postural reaction deficits may be present
SPINAL NERVE ASSESSMENT	
Spinal Reflexes	• **Cauda equina:** Reduced reflexes to pelvic limbs, anus, and urinary sphincter may be present • **C1–C5 or T3–L3 spinal cord segment:** Normal to increased reflexes (upper motor neuron signs) • **C6–T2 or L4–S3 spinal cord segment:** Reduced reflexes (lower motor neuron signs); reduced muscle tone • **Neuromuscular system:** Reduced reflexes may be present in either thoracic or pelvic limbs
PAIN ASSESSMENT	
Pain on Spinal Palpation	• **Brain:** Pain on cervical flexion may sometimes be found • **Cauda equina:** Pain on palpation of the lumbosacral area • **Neuromuscular:** Muscle pain in some myopathies • **Spinal cord:** Pain on palpation of affected area may or may not be present
OTHER ASSESSMENTS	
Hemineglect	• **Cerebrum:** Reduced reaction to stimulus contralateral side to lesion
Seizures	• **Prosencephalon:** Neurologic examination may be normal
Vestibular Signs	• **Central vestibular system:** Brainstem or cerebellar lesion • **Peripheral vestibular system:** Inner ear lesion