

Appendix 9a. Neurological Assessment Reference Sheet

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NOTE: This reference sheet is a reminder to the Investigator that there are three diseases to consider during the Day 0 (pre-dose) general health examination (as part of the physical examination), “including evaluation of skin, cardiovascular system, gastrointestinal system, neurological system other than PNE signs, respiratory system, genitourinary system, eyes, ears, cranial nerves, mucous membranes, and the musculoskeletal system.”

► **Are the deficits attributable to upper motor neuron signs?**

Upper motor neurons signs are compatible with the following clinical signs.

- Mentation abnormal
- Cranial nerves involvement
- Pupillary light reflex abnormal or eye movement abnormal
- Eyes rotate down when head elevated
- Tremors, bradykinesia present
- Abnormal pronation or external rotation of limbs on walking
- Muscle tone flaccid
- Strength is decreased
- Abnormal asymmetric gait located to multifocal spinal cord lesion
- Head tilt or circling
- Localized spontaneous sweating

Bilateral negative slap test

► **Are the deficits attributable to lower motor neuron signs?**

Lower motor neuron involvement is compatible with polyneuritis equi and the following clinical signs.

- Hyperesthesia (rubbing of the tail) followed by paralysis or paresis of the tail
- Perianal analgesia or decreased anal tone (loss of sensation around the anus)
- Dribbles or retains urine (dysuria) or penile paresis; cystitis
- Cranial nerve neuropathy (decreased tongue tone, CN III, V, VII, VIII, IX, X, XII)
- Rectal dysfunction (retains feces)
- Inability to blink (nystagmus)
- Muscle atrophy (gluteal or masseter) or hypotonicity of gluteal, semimembranosus
- Mild (grade 1) proprioceptive deficits in multiple limbs
- Ear droop, head tilt (CN VIII)
- Loss of segmental and intersegmental reflexes (pannuculus)
- Pelvic limb weakness, staggering
- High P2 antibody titer increases the suspicion

► **Clinical signs of equine motor neuron disease (EMND)⁴**

- Trembling, acute onset
- Lower than normal head carriage
- Muscle fasciculations
- Mild to moderate elevation in creatine kinase and aspartate aminotransferase
- Housed without pasture or dry lot for a year
- Symmetric atrophy of muscles in rear and front limbs and neck
- Stringhalt or other unusual gait
- Vitamin E levels low <1 µg/mL

⁴ Diagnostic Techniques in Equine Medicine, Second Edition, 2009

¹ Alleman *et al.* Antemortem diagnosis of polyneuritis equi. *J Vet Intern Med* 2009; 665-668.

² Vatistas N, Mayhew J. Differential diagnosis of polyneuritis equi. *Equine Practice*, January 1995.

³ Lunn DP, Mayhew IG. The neurological evaluation of horses. *Equine Vet Edu* 1989;194-101.