



SAG 1, 5, 6™, Neospora, C-reactive Protein, S. Fayeri, MPP/MP2, NfL

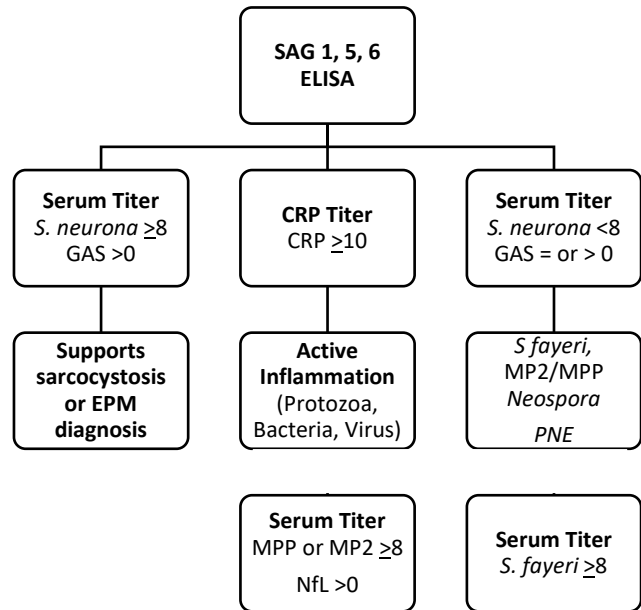
Instructions

Please evaluate the neurological deficits in a horse at a walk including any additional manipulative procedures. Place your score on the SUBMISSION FORM. The GAS is used to evaluate your case and is required for test interpretation. Treatment outcome can be useful when combined with testing.

Gait Assessment Score (GAS)

GAS	Gait Evaluation
0	Normal, neurologic deficits not detected.
1	Neurologic deficits may be detectable at normal gaits; exacerbated with manipulative procedures (e.g., backing, turning in tight circles, walking with head elevation, etc.).
2	Neurological deficit obvious at normal gaits or posture; signs exacerbated with manipulative procedures.
3	Neurological deficit obvious at normal gaits; horses give the impression that they may fall (but do not) and buckle or fall with manipulative procedures.
4	Neurologic deficit is profound at normal gaits; horse frequently stumbles or trips and may fall and normal gaits when manipulative procedures are utilized.
5	Recumbent, unable to rise.

EPM Decision Tree



*Both SAG 1, 5, 6 and CRP is recommended to be tested to rule out EPM

SAG 1, 5, 6™ or Neospora Interpretation (ELISA)

Serum titer	Due to <i>S. neurona</i> or <i>Neospora</i>
Negative	2, 4: No current <i>S. neurona</i> or <i>Neospora</i> infection.
Positive	8, 16, 32, 64: Antibody present. The time to seroconvert (turn negative) depends on the immune background of the animal. Recurrent infections result in titers that persist for up to 8 months.

Sarcocystis fayeri Interpretation (Sarcocystis fayeri ELISA)

Serum titer	Probability of <i>S. fayeri</i> infection
Negative	0, 4: No current <i>S. fayeri</i> infection.
Positive	8, 16, 32, 64: <i>S. fayeri</i> cysts are present in muscles. The toxins affect the neuromuscular system. Treatment includes long term protocoal drugs that prevent new cyst formation.

C-reactive Protein Interpretation (CRP ELISA)

CRP titer	Inflammation due to active infection
<16	Normal.
>16	Inflammation due to active infection.
20	Target value for assessing d/c polyneuritis therapy
>39	Consider polyneuritis in the diagnosis in relapse cases

MPP/MP2 Interpretation (Equine Myelin Protein ELISA)

Serum titer	Probability of MPP/MP2
Negative	0, 4: No anti myelin antibody.
Positive	8, 16, 32, 64: Antibody to myelin protein present. The disease process involves IL6 and antibody. Both should be addressed by specific treatment.

NfL	Axon damage
> 0	Any value > 0 is abnormal

Pathogenes Testing Options



The various tests we offer help you manage your horse with neurological dysfunction. Most likely EPM is on your differential list, remember, there are no “EPM tests” because the disease *syndrome* is due to parasites and inflammation. The tests below are useful to locate the cause of the signs, parasites or inflammation. If you are unsure what to submit after reviewing the following chart, select SAG 1, 5, 6 and CRP. We hold your sample for 6 months and additional tests can be ordered. You may call us for our suggestions.

TYPE OF TEST	WHAT WE MEASURE	WHEN TO USE THE TEST	HOW TO USE THE RESULT
SAG 1, 5, 6	Serotype of <i>S. neurona</i>	1) Suspect EPM 2) After treatment depending on history of infections	Antibody against <i>S. neurona</i> supports a diagnosis of sarcocystosis. After treatment the antibodies drop in a naive horse and rise in an “experienced” horse thus, the time to seroconvert (turn negative) depends on the immune background of the animal.
CRP	C-reactive protein concentration	Acute phase protein that detects inflammation due to infection.	Monitor inflammation that is due to IL6 inflammation. An elevated value in a horse with chronic, relapsing horse should trigger running MPP.
LYME SCREEN	Antibody against <i>Borrelia</i>	Use this test to rule in or out Lyme Disease	A negative value rules out Lyme. A positive value at 20 does not rule Lyme out, but acute infection is less likely due to <i>Borrelia</i> . A positive value at 40 indicates Lyme should be on the differential. Call for advice on confirmatory testing.
MPP	Antibody against peptide of myelin protein	Chronic, relapsing and unresponsive cases that show polyneuritis or encephalomyelitis. Sidewinding in older horses.	A positive MPP test indicates there is an autoimmune component to the disease. In a levamisole responsive case it may be prudent to treat the autoimmune reaction and monitor the MPP. The MPP may indicate longer duration autoimmune disease.
MP2	Antibody to myelin MP2 protein	Chronic, relapsing and unresponsive cases that show polyneuritis or encephalomyelitis. Sidewinding older horses.	A positive MPP test indicates there is an autoimmune component to the disease. The MP2 can indicate earlier disease than the MPP test.
S. FAYERI TOXIN	Antibody to <i>Sarcocystis</i> toxin	Rule in or out toxin associated with sarcocyst stages that can cause ataxia and gut inflammation.	A positive test indicates the horse has <i>S. fayeri</i> sarcocysts. Use this test when CRP remains high, with or without clinical signs, after treatment.
Neospora	Antibody to Neospora	Detects antibody against <i>Neospora hughesi</i> .	Antibody against <i>N hughesi</i> supports a diagnosis of infection. After treatment the antibodies drop in a naive horse and rise in an “experienced” horse thus, the time to seroconvert (turn negative) depends on the immune background of the animal.
NfL	Level of neurofilament	Detects axon damage	A positive test indicates axon damage. The value responds quickly to appropriate treatment.