

E

quine Protozoal Myeloencephalitis,

or EPM, is a central nervous systems disease of the equine. While relatively few horses actually develop the disease, research suggests approximately one-half of all horses in the Midwest have been infected by and/or exposed to the parasite that causes EPM.

EPM is caused by a parasite, *Sarcocystis neurona*, spread in the feces of opossums. Hay, feed and water contaminated by parasite-infested waste are the most likely sources of infection. When eaten, the organism's eggs, called sporocysts, migrate to the central nervous system (CNS) to multiply. Parasites can remain in the horse's system for years without causing disease.

Developing Infection

Not every horse exposed to *S. neurona* will develop EPM.

Three factors determine if infection leads to disease:

1. Number of sporocysts ingested. The more parasitic eggs ingested, the more likely symptoms will develop.
2. General immune system health. Immunocompromised animals are more likely to develop EPM. Certain drugs (e.g., d e x a m e t h a s o n e , prednisone), foaling/dystocia, pain, surgery, or general anesthesia can hinder a horse's ability to fight infection.
3. Environmental stress. Long trips, management changes, new ownership, excessive workloads, or inclement weather can cause stress.

Symptoms of EPM

Symptoms vary, depending on where the organism localizes in the nervous system. Almost always

asymmetric (not the same on both sides of the animal), symptoms result from nerve inflammation, swelling and cell death. Owners frequently notice obscure lameness, stumbling and incoordination. If the brain stem is involved, usually a head tilt is present.

Clinical signs may include:

- Ataxia (incoordination) and weakness: Generally centered in the rear limbs, symptoms worsen when the head is elevated, or the horse moves up or down slopes. The animal may stand splay-footed or lean against stall wall for balance;
- Spastic or stiff walking;
- Muscle atrophy or loss of condition: Most common in the hind limb region; can involve face, neck or front limbs;
- Facial nerve paralysis, head tilt, difficulty chewing or swallowing, snoring, roaring, drooped eyelid or lip, abnormal eye movements;
- Back soreness from asymmetric use of hind limbs;
- Attitude change;
- Circling;
- Acute recumbency: May suddenly lie down or fall asleep;
- Seizures;
- Collapse, death.

Indiana State Board of Animal Health
Office of the State Veterinarian
805 Beachway Drive, Suite 50
Indianapolis, IN 46224-7785
317/227-0300; Fax 317/227-0330
email: animalhealth@boah.state.in.us
www.state.in.us/boah

Since clinical signs can mimic other diseases or neurological abnormalities, a veterinarian should consider the disease when diagnosing EPM-like symptoms in horses.