



## **Equine Cushing's Disease (Pars Pituitary Intermedia Dysfunction) - Part 1**

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Pars Pituitary Intermedia Dysfunction (PPID), or Cushing's disease, in horses is a disease that comes with age. It is caused by a benign tumor affecting a part of the brain known as the pituitary gland. The exact reason for the formation of the tumor is unknown. The tumor, a pituitary adenoma, interferes with the body's normal hormonal balance due to the space it occupies in the brain as well as an overproduction of hormones and peptides.

Advances in veterinary medicine, nutrition, and farriery have allowed horse owners to enjoy their horses for much longer than in the past. The increase in the geriatric population of horses is paralleled with an increase in the number of horses showing clinical signs of Cushing's disease. The average age of horses diagnosed with Cushing's is 21 years old with a range from 12 to 35 years of age but it has been reported in horses as young as 7 years old.

The most common clinical signs of Cushing's is an excessively long hair coat which often fails to shed out in the warmer months. Other clinical signs include weight loss, lethargy or poor performance, laminitis, increased water intake and urination, increased sweating, and mares may fail to cycle. The onset of these clinical signs is usually gradual over a year or more but can also develop rapidly.

The tumor's location interferes with normal hormone secretion which in turn leads to changes manifested through the clinical signs as well as secondary complications. The major complications of Cushing's include diabetes mellitus and decreased immunity which predisposes horses to secondary infections. Veterinarians can diagnose Cushing's disease through laboratory blood work and with special tests (ACTH stimulation and dexamethasone suppression tests) that evaluate the levels of hormones affected by the tumor.

There is no cure for Cushing's disease but the good news is that there are medications available which usually improve the clinical signs. Improvement of clinical signs will most often improve the quality and length of life for your horse. Some of the medications used to treat horses with Cushing's include pergolide, bromocriptine and cyproheptadine. Studies have shown that pergolide is the most effective drug to control Cushing's disease in horses. These drugs help to balance your horse's hormones by reducing the secretion of cortisol and other hormones responsible for the clinical signs and changes seen in Cushing's.

## **Equine Cushing Disease - Part 2**

As we previously discussed in Part 1, Equine Cushing's Disease (ECD), also known as Pituitary Pars Intermedia Dysfunction (PPID), is an endocrine disease that is classified by excessive production of adrenocorticotropin hormone (ACTH). This overproduction is due to an increased number of cells or cancerous changes in a specific part of the pituitary gland. It most commonly occurs in old horses and ponies but has been diagnosed in the young as well. In this article, we will go more in depth on the importance to testing and treating this disease.

### **What symptoms should you look for to recognize this disease?**

We previously mentioned the major symptoms of a horse with Equine Cushing's Disease. The following list is a brief overview to remind horse owners what to look for. If you have noticed any of these signs, please call your veterinarian as spring is the best time to test for ECD.

Early signs of the disease can be difficult to appreciate. Non-specific symptoms such as lethargy, decreased athletic performance, and change in attitude have been reported. More specific symptoms include delayed coat shedding, abnormal patches of longer hair on certain areas of the body, and fat deposits on the neck, tailhead, and over the eyes. Laminitis, also known as founder, maybe a component of this disease.

Advanced signs of the disease includes worsening of the symptoms present with early disease, as well as, muscle wasting, rounded belly, abnormal sweating, increased water intake, increased urination, infertility, recurrent infections, and neurologic deficits. Horses and ponies in this stage of the disease may have a history of repeated sole abscesses, tooth root abscesses, or sinusitis.

### **How do you test for the disease?**

To initially screen for Equine Cushing's, your veterinarian can collect a single blood sample to test for resting ACTH concentration. This sample should be drawn with caution during the fall (August to November) as the values can be falsely elevated. A new set of "normal" fall values have recently been established however making a Fall diagnosis more accurate. Another test that can be performed in the face of subtle symptoms indicating early disease is the Oral Sugar Test. The horse must be fasted. Your veterinarian will then administer a specified dose of corn syrup orally and collect blood samples at 60 and 90 minutes after administration. Insulin and glucose concentration levels should be measured. This test can be used to supplement or replace the resting ACTH test depending on results. A Thyrotropin-releasing hormone (TRH) stimulation test can be performed to confirm diagnosis of Equine Cushing's disease in a horse with minimal symptoms. This test should be performed between December and June. Another test that your veterinarian may recommend is the dexamethasone suppression test, depending on results of the ACTH and TRH stimulation tests.

### **How do you treat Equine Cushing's disease?**

Treatment is fairly simple. It consists of an oral medication (Pergolide) in the form of a tablet given once daily. PRASCEND is a FDA-approved formulation of pergolide. The dose may need to be increased or decreased depending on the individual horse's response. ACTH concentrations should be rechecked 30 days after initiating treatment to determine response. Changes in symptoms may not be noticed until 2 months after treatment is started. It important to note that approximately 80% of treated horses show signs of improvement with only 1/3 of the treated horses having normal test results. Equine Cushing's Disease is a condition that is managed and not "cured". Treatment with pergolide is generally very successful at keeping your horse comfortable as long as it is continued for the remainder of the horse's life. Remember to always consult with your veterinarian about an appropriate protocol before starting your horse on pergolide.

If you think your horse has symptoms consistent with Cushings disease, you should contact your veterinarian to discuss diagnostics and treatment.

Contact Brandon Equine Medical Center at 813-643-7177 or email [info@brandonequine.com](mailto:info@brandonequine.com) with any questions regarding this topic.

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