

## Equine Cushing's Disease

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The brain is a complicated organ directly or indirectly responsible for the function of all parts of the body. The many functions of the brain are beyond the scope of this article; however, a specific disease that originates within the equine brain is Equine Cushing's Syndrome.

On the ventral (bottom) surface of the brain is the pituitary gland, which is further divided into the pars distalis and the pars intermedia. These two divisions secrete a multitude of hormones and hormone precursors that influence the rest of the body. This anatomic distinction is necessary to better understand Equine Cushing's Disease, also known as Pituitary Pars Intermedia Dysfunction (PPID). PPID is a common disease that affects many older horses. It is due to a dysfunction caused by a benign tumor on the pars intermedia. The major hallmark is increased levels of glucocorticoids that are nonresponsive to natural negative feedback systems within the body. The complete pathogenesis of PPID has not yet been determined for all horses.

Clinically, any breed of horse can be affected, but pony breeds seem to acquire this disease more frequently. The ages range from over 7 years, with 18-23 years most common. There is no sex predilection, with stallions, geldings and mares having equal representation.

Horses affected with PPID often have a characteristic appearance, with a long hair coat that does not shed completely in the springtime, chronic laminitis, increased urination and water consumption. Some horses also take on a "potbellied" appearance as they lose muscle over their top line and stretching of the abdominal muscles. Other common clinical signs include lethargy and exercise intolerance, increased fat deposits over the crest of the neck, tail head and sheath in male horses. They appear to be more pain tolerant and often have delayed wound healing.

To determine if your horse is affected by PPID, your veterinarian will likely use clinical assessment of your horse's appearance in conjunction with a dexamethasone suppression test. In a dexamethasone suppression test, a blood sample will be drawn around 4:00 pm and then the patient is injected with dexamethasone intramuscularly. 18 hours later, around 10:00 am, another blood sample is drawn and the horse's level of cortisol before and after dexamethasone injection is compared. A normal horse will suppress its cortisol level following steroid administration; a PPID horse will have inappropriately increased levels of cortisol. This test is considered the gold standard for diagnostic testing.

Management of Cushing's Disease includes careful attention their overall health care and routine dental care. Since they are more prone to developing laminitis or "founder", diligence in maintaining corrective shoeing is also mandatory. Other management concerns are nutritional management, providing high protein, low carbohydrate forages and feeds. Oral medication options include cyproheptadine, a serotonin antagonist and Pergolide, a dopamine agonist. Both of these medications can be prescribed by your veterinarian, following an accurate diagnosis. Supplementation of magnesium and chromium are also recommended for some horses.

Thanks to many advances in diagnostic capabilities and medical treatment, horses are living longer, more productive lives. With this longevity, comes a new set of disease processes for owners to manage. If your older horse is showing any of the clinical signs listed above, an exam by your veterinarian is highly recommended.