

## PPID vs EMS

Pituitary Pars Intermedia Dysfunction (PPID, formerly known as Cushings) and Equine Metabolic Syndrome (EMS) are both very common endocrine disorders seen in horses. These two diseases have some commonalities but are distinct in many ways. Recent research has shed light on the pathophysiology and appropriate testing for these diseases. More horses are being appropriately treated for their specific disease, improving their quality of life.

PPID is the most common endocrine disease diagnosed in the horse with an average onset at 19 years old. Up to 30% of geriatric horses will be diagnosed with PPID. This disease is caused by an over active intermediate lobe of the pituitary gland from a lack of inhibition by dopamine, leading to excess production of a hormone called ACTH. ACTH production causes the adrenal glands to produce too much endogenous steroid (cortisol) which leads to the clinical signs that most owners report: lack of shedding, poor sweating, pot belly appearance, regional adiposity, recurrent infections, laminitis, and lethargy. Your veterinarian will typically test for PPID with either an ACTH baseline or thyrotropin releasing hormone (TRH) stimulation test. Once confirmed, PPID horses can be started on a medication called Pergolide, which has been shown to improve clinical signs in 60% of horses treated.

EMS is defined as a combination of metabolic derangements that occur: insulin resistance, history of laminitis, and increased fat deposition. Insulin resistance results in tissues and organs being unable to uptake glucose which is necessary for most metabolic functions. The fat deposits can lead to a persistent inflammatory state producing a great deal of oxidative damage. Clinical signs of the EMS horse include: obesity, regional adiposity (cresty neck, fat over tail head and sheath), laminitis, and lethargy. Testing for EMS is done by measuring resting insulin and in some cases, doing a glucose tolerance test. Once diagnosed, the foundation for managing the EMS horse is diet and exercise. **Diets will consist of low starch and horses will be fed 1.5-2.0% of the body weight in roughage. Hay can be soaked for 30 minutes before feeding to decrease the non-structured**

**carbohydrates.** Additionally, access to lush pasture must be managed with altered turnout or a grazing muzzle. If diet and exercise are not enough, medication can be implemented. The most commonly used medications are levothyroxine or metformin, which help speed up the metabolism of the horse and assist with weight loss. Genetics play a large role in the development of EMS with ponies, Paso Finos, Morgans, Tennessee Walkers, and Quarter Horses being most commonly affected breeds.

Endocrine diseases in the horse can be successfully managed with early recognition and treatment. Contact your veterinarian if you suspect your horse has PPID or EMS.