

# New diagnostic protocols for wasting disease in horses

December 5 2013, by Rushmie Nofsinger

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Equine pituitary pars intermedia dysfunction (PPID) can be detected earlier and more reliably with a new set of guidelines developed by the Equine Endocrinology Group (EEG), a body of leading veterinarians and researchers in the field of equine endocrinology.

Similar to Cushing's disease in humans but affecting a different area of the [pituitary gland](#), PPID is associated with elevated levels of hormones in the blood. Horses with the condition often have a wide range of clinical signs depending on the stage of the disease, from loss of energy to muscle wasting, and the condition is more common in older horses.

The EEG created a set of recommendations in 2011 to help practitioners identify early versus advanced stages of PPID, and their new recommendations adjust and refine testing procedures for a more thorough and accurate approach to diagnosis. Recommendations are based upon published research on PPID.

"Our collective research has shown that horses can often develop this disease earlier in life, yet earlier clinical signs don't always translate into positive test results," said Nicholas Frank, D.V.M, DACVIM, professor and chair of the Department of Clinical Sciences at the Cummings School of Veterinary Medicine at Tufts University and group coordinator for the Equine Endocrinology Group. "As research on PPID advances, we are identifying practical ways to improve early detection and diagnosis."

In addition to Dr. Frank, the Equine Endocrinology Group includes Drs. Frank Andrews (Louisiana State University); Andy Durham (Liphook Equine Hospital); Dianne McFarlane (Oklahoma State University); and Hal Schott (Michigan State University).

While the clinical signs of PPID are the same, the recommendations address changes to the diagnostic process. Previously, horses showing any signs of this disease were recommended to undergo one of two tests. One test measures levels of resting adrenocorticotropin hormone (ACTH) which is produced and secreted by the pituitary gland. The other is an overnight dexamethasone suppression test (DST) that causes the production of cortisol to decrease in healthy horses, but not those with PPID.

The newly established guidelines retain the recommendation to measure resting ACTH concentrations, but the group has lowered the recommendation for using the DST. Recent research shows that the DST is no better at detecting PPID than other tests, and horse owners have concerns about dexamethasone inducing laminitis, a painful condition affecting the feet that can lead to death.

Instead, the EEG group recommends a thyrotropin-releasing hormone (TRH) stimulation test, which is particularly useful when horses with early PPID have normal resting ACTH concentrations. TRH causes the pituitary gland to release more hormones and ACTH concentrations increase to a higher level in horses with PPID. This test is easily performed on the farm by taking a baseline blood sample, injecting TRH intravenously, and collecting a second blood sample 10 minutes later. At present, the TRH stimulation test should only be used between December and June, which is the only period in which cut-off values have been established. Cut-off values allow veterinarians to interpret results and determine whether the horse suffers from PPID.

**More information:** For more information on the PPID diagnostic guidelines visit [sites.tufts.edu/equineendogroup/](https://sites.tufts.edu/equineendogroup/)

Provided by Tufts University

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