Optional TRH Stimulation Testing:
For suspected early PPID

In the fall of 2013, the Equine Endocrinology Group recommended the thyrotropin-releasing hormone (TRH) stimulation test, which is particularly useful for diagnosis when horses have signs of early PPID or 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 by taking a baseline blood sample, injecting TRH intravenously, and collecting a second blood sample exactly 10 minutes later. TRH stimulation tests should only be conducted mid-November to mid-July until seasonally adjusted reference intervals have been established. Previous studies have reported an intermittent frequency of chewing, licking, yawning, flehmen and coughing following the IV administration of TRH in horses.1-4

Procedure for TRH Stimulation Testing:
1. Collect baseline blood sample in purple-top (EDTA) tube:
   a. Time 0 (T0 – pre-TRH administration)
2. Administer 1.0 mg (total dose) TRH intravenously:
   a. Set cell phone time for 10 minutes!
3. Exactly 10 minutes (T10) relative to TRH administration:
   a. Collect a second blood sample in a separate purple-top (EDTA) tube
4. Label purple-top (EDTA) tubes accordingly (T0 or T10)
5. Submit plasma from each time-point (T0 and T10) for measurement of ACTH

Interpretation of TRH Stimulation Results*

<table>
<thead>
<tr>
<th></th>
<th>mid-November to mid-July</th>
<th>mid-July to mid-November</th>
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<tbody>
<tr>
<td></td>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td>0 minute (pre-TRH)</td>
<td>≤ 35 pg/mL</td>
<td>&gt; 35 pg/mL</td>
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<tr>
<td>10 minute (exactly)</td>
<td>≤ 110 pg/mL</td>
<td>&gt; 110 pg/mL</td>
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</tbody>
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*Reference intervals are the subject of ongoing research.

Further research is required to establish reference intervals.

4 Diez de Castro, E., et al., Influence of feeding status, time of day, and season on baseline adrenocorticotropic hormone and the response to the thyrotropin-releasing hormone-stimulation test in healthy horses. Domest Anim Endocrinol, 2014, 48 p. 77-83
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