



Office of Veterinary Affairs
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Guidelines for Thyroxine Therapeutic Use Exemption & Thyroid Hormone Testing

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Commencing immediately, the results of a thyrotropin releasing hormone (TRH) test will be required before a Therapeutic Use Exemption will be granted to treat a horse with thyroxine.

Veterinarians are reminded that thyroxine is a prohibited substance. See Commission Rule 4043.12. Treatment of a horse with thyroxine may be permissible provided a Therapeutic Use Exemption has been granted. This Memorandum outlines the methodology for the submission and review of a TRH Response Test and a Therapeutic Use Exemption request.

Protocol for the Thyrotropin Releasing Hormone (TRH) Response Test

- A pre-TRH administration baseline blood sample must first be collected.
- One (1) milligram of TRH (Protirelin) shall be injected intravenously.
- A post-TRH administration blood sample shall be collected four (4) hours after administration of the TRH.
- The paired samples shall be submitted together, with a request for either T4 testing or both T4 and T3 testing on each sample. Please follow guidelines for *Sample Collection and Processing*, below.

Sampling Collection and Processing

- Samples may be submitted to any laboratory qualified to perform the TRH Response Test. Should you have a concern whether a laboratory is qualified, please contact the Office of Veterinary Affairs.
- In New York State, the Cornell University College of Veterinary Medicine Animal Health Diagnostic Center is qualified to conduct such testing.
- Submission protocols of the testing laboratory selected shall be diligently followed.
- The costs and fees associated with all testing are the responsibility of the submitting party.
- Test results shall be e-mailed directly to the office of Veterinary Affairs:
Scott.Palmer@gaming.ny.gov.

Testing Costs & Fees

For illustrative purposes, the present fees and testing costs at Cornell University Animal Diagnostic Health Center have been replicated below. The cumulative cost at Cornell for a TRH Response Test is \$63.00 (\$58.00 test fees + \$5.00 accession fee).

T3 Testing

Pre-TRH Treatment Sample	
Sampling Details:	1 mL serum or heparinized plasma
Collection Container:	plastic or glass tube
Coolant:	Refrigerate
Cost/Fee:	\$18.00
Reference Range:	30-80 ng/dL

Post-TRH Treatment Sample	
Sampling Details:	1 mL serum or heparinized plasma four (4) hours post-TRH treatment
Collection Container:	plastic or glass tube
Coolant:	Refrigerate
Cost/Fee:	\$12.00
Reference Range:	100-250 ng/dL

T4 Testing

Pre-TRH Treatment Sample	
Sampling Details:	1 mL serum or heparinized plasma
Collection Container:	plastic or glass tube
Coolant:	Refrigerate
Cost/Fee:	\$16.00
Reference Range:	1-3 ug/dL

Post-TRH Treatment Sample	
Sampling Details:	1 mL serum or heparinized plasma four (4) hours post-TRH treatment
Collection Container:	plastic or glass tube
Coolant:	Refrigerate
Cost/Fee:	\$12.00
Reference Range:	3-9 ug/dL

Interpretation of the Results of the TRH Response Test

Final interpretation of the TRH Response Test will be made by the Office of Veterinary Affairs. Horses seldom have primary hypothyroidism, but often have hypothyroidism secondary to equine metabolic syndrome (EMS) or pituitary pars intermedia dysfunction (PPID or Cushing's Syndrome). Few true hyperthyroid horses have been documented.

Normal (euthyroid) racehorses frequently have baseline T3 and T4 concentrations below the standard reference ranges listed above (T3: 30-80 ng/dL and T4: 1-3 ug/dL). However, normal racehorses will have at least twice the levels of T3 and T4 four (4) hours following administration of TRH. Concentrations of T3 generally parallel those of T4 but the former are much more variable. Horses will be considered to have primary hypothyroidism if the pre-TRH concentrations of T4 are below the reference value or low normal and the post-TRH concentrations do not differ from pre-TRH concentrations or may change very slightly.

Obtaining a Therapeutic Use Exemption

- To obtain a Therapeutic Use Exemption for thyroxine, the following shall be submitted to the Office of Veterinary Affairs:
 - A Thyrotropin Releasing Hormone (TRH) Response Test that demonstrates a lack of response to TRH administration.
 - A prescription written by a New York State-licensed veterinarian
 - A written treatment plan, which shall include
 - a diagnosis and justification for treatment
 - the clinical dosage to be used
 - an estimated last date for treatment
- Upon review by the Office of Veterinary Affairs, a submitted treatment plan will be approved or rejected in writing
 - Only upon written approval may a horse be treated with thyroxine
- Containers of thyroxine may be kept on the grounds of a licensed premises only if labeled with the following information:
 - The name and contact information of the prescribing veterinarian
 - The name of the horse for which the thyroxine is prescribed
 - The dosage information for the horse
 - The estimated last treatment date
- A thyroxine container shall contain no more thyroxine than that required for treatment of an individual horse as prescribed for 60 days.