

# Cantharidin Poisoning

Deadly  
“blister beetles”  
frequent culprit in  
equine deaths across  
U.S.



Protecting Animal and Human  
Health through Diagnostics

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**W**hen horses ingest the cantharidin toxin through hay or alfalfa contaminated with “blister” beetles, the outcome is often fatal. Toxicosis occurs rapidly; as little as four grams of dried beetles may contain fatal levels of cantharidin.

Cantharidin is akin to cyanide or strychnine in toxicity and quickly affects a horse’s ability to function. All blister beetles carry cantharidin, and 200 species occur in the United States. The striped blister beetles present in the southwestern states are the most problematic.

Time is of the essence in diagnosing and treating a horse with cantharidin poisoning. A typical toxicosis case shows many of the following signs:

- Abdominal pain, resulting in anorexia
- Depression and sweating
- Frequent attempts to drink water, submerge the muzzle
- Blood-tinged urine or urine with blood clots
- Dark, congested mucous membranes
- Increased heart and respiratory rates
- Increased rectal temperature

**About TVMDL:**

The Texas A&M Veterinary Medical Diagnostic Laboratory protects animal and human health through diagnostics.

An agency of the Texas A&M University System, TVMDL comprises two full-service laboratories, in College Station and Amarillo, and two poultry laboratories, in Center and Gonzales.

TVMDL is among 12 core laboratories in the National Animal Health Laboratory Network, a group of state and regional laboratories designed to provide a nationwide surge testing, response, and recovery capacity in the event of an animal disease outbreak.

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The less frequent but telltale symptoms include:

- Oral erosions
- Salivation
- Synchronous diaphragmatic flutter
- Stiff, short-strided gait
- Bloody diarrhea

The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) at College Station was one of the first labs to diagnose cantharidin poisoning and to develop a test for the toxin. To submit a test to TVMDL, a 500g sample of stomach or cecal content is needed, along with one cup to one liter of urine. Though not optimum, the test can also be run on 20cc of serum.

TEST: Cantharidin

PRICE: \$85.00 plus \$6.00 accession fee.

TURNAROUND: Performed in the College Station laboratory Monday-Friday, with results in 5-14 business days.

In addition, if a beetle is sent to the lab, it can be confirmed as the potentially catharidin-producing blister beetle.

Treatment varies widely depending on symptoms and stage of toxicosis, but prevention is key. Timely harvesting of alfalfa, is needed; the first or last cutting on a field is most often beetle-free.

**TVMDL Facts:**

- Receive more than 500 submissions each business day from around the world, totaling more than 925,000 tests a year.
- State-of-the-art, rapid, accurate and cost-effective diagnostic services.
- TVMDL is one of 12 core labs in the National Animal Health Laboratory Network.
- TVMDL is accredited by the American Association of Veterinary Laboratory Diagnosticians.

**Full-Service Lab:**

- Questions? Talk directly to the TVMDL diagnosticians who conduct your tests.
- Need a consultation with an expert? Our staff includes more than 30 professionals who hold a DVM, a Ph.D., or both. Of these 16 are board-certified in their specialties.
- Get online access to your diagnostic records when you need them through our secure web site.

Visit [tvmdl.tamu.edu](http://tvmdl.tamu.edu) for more information or to download your free educational material on a wealth of diagnostic services.