

WHAT TO EXPECT

ENDOCRINE TESTING IN HORSES: EQUINE METABOLIC SYNDROME

BACKGROUND INFORMATION

WCVN veterinarians use the term equine metabolic syndrome (EMS) to refer to horses, ponies or donkeys with chronic insulin resistance that don't suffer from PPID (pituitary pars intermedia dysfunction, also known as Cushing's disease). Horses diagnosed with EMS are usually young to middle age, overweight and present abnormal distribution of fat. However, the syndrome can be rarely seen in lean animals.

Affected horses usually present abnormal insulin regulation (similar to diabetes type II in people) and high levels of triglycerides, leptin and other molecules that

can lead to a generalized status of inflammation and to laminitis. EMS results from an interaction between environment and genetics — breeds such as Morgan, Andalusian, miniature horse and gaited breeds are pre-disposed to the disease. Therefore, each affected animal can have different risk factors for developing laminitis. The current recommendation is to perform a dynamic test that allows veterinarians to evaluate the equine patient's digestion and absorption of sugars as well as the secondary response of certain hormones (for example, insulin).

GENERAL STEPS

A typical appointment for EMS testing will include the following steps:

- Your horse must be fasted before the test (no access to food for eight to 12 hours). You have two options:
 - drop off your horse at the WCVN Veterinary Medical Centre the evening before testing (fee for overnight stay)
 - fast your horse at home the night before your visit. Remove all feed, bedding and access to grass (using a muzzle is an option). If your horse manages to eat something during the eight- to 12-hour period before testing, we advise you to re-schedule since any feed intake will affect the results.
- A senior veterinary student or a house officer (interns or residents who are licensed veterinarians) will meet you at the WCVN Large Animal Clinic reception and a registered veterinary technologist (RVT) will help you unload your horse.
- A complete medical history will be taken by a senior veterinary student and a house officer, followed by a physical exam with the assistance of an RVT.
- Your horse will be weighed and some measurements (such as neck length and girth) might be collected.
- The clinical team will take a blood sample and send it to a laboratory to measure basal levels of glucose, insulin and/or other hormones (leptin, triglycerides and adiponectin).
- **Oral sugar test:** based on your animal's weight, the team will give your horse a dose of corn syrup by mouth and then take blood samples 60 minutes and 90 minutes after the dose. These samples will be tested for levels of glucose and insulin.
- In some cases, further tests may be needed. For example, if we suspect that your horse also has PPID, we may need to do further testing.
- You are welcome to stay and watch, wait in the reception area or leave the clinic. We will call you when our team is ready to discuss our findings and recommendations and to answer your questions.
- The procedure usually lasts two hours. Your horse does not need to be sedated for any of the tests.
- When your horse is ready to be discharged, we will let you know. Please pay your invoice at the reception desk. Please note that full payment is required before your horse can be discharged.
- We will discuss discharge recommendations with you and follow up by email as soon as the blood sample results are available (about five to 10 days).
- If EMS is diagnosed based on the history, physical characteristics of your horse/donkey and laboratory results, we will talk about a specific diet and exercise plan for your animal if it doesn't have acute laminitis. If your horse suffers from laminitis, we will discuss a diet and alternative management since exercise wouldn't be recommended at that time.
- If the test result is negative (or borderline), but the medical history and physical characteristics still suggest your horse has EMS, we may suggest a second appointment for an insulin tolerance test. You do not need to fast your horse for this test. As an alternative, we may suggest a trial management plan to evaluate the horse's response.

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ABOUT THE VMC

Welcome to the WCV Veterinary Medical Centre (VMC), the veterinary referral centre for all of Western Canada and the teaching hospital for future veterinarians and veterinary specialists.

Our clinical team includes board-certified veterinary specialists, clinical associates and registered veterinary technologists, as well as veterinary specialists in training (residents), clinical interns and senior veterinary students. We look forward to caring for your animal and meeting you in person.

BEFORE YOUR VISIT

To prepare for your visit to the VMC, please visit us online: vmc.usask.ca/about/new-client.php

You will find more information about our location, parking, hours of operation and the Large Animal Clinic reception area.

MORE DETAILS ABOUT PAYMENT

If your animal is not hospitalized, the WCV Veterinary Medical Centre requires full payment at the time of service.

If your animal is hospitalized, half of the estimated cost is due prior to services being provided. Final payment is due at the time of discharge.

Occasionally, the hospital will mail statements to you after discharge for additional tests that were approved by you and for charges not included on the initial invoice at discharge.

The WCV Veterinary Medical Centre accepts the following payment methods:

- cash
- credit card (Visa and MasterCard)
- debit card (Interac)

Personal cheques are not accepted.

If you have questions about payment, call the administration office at 306-966-7103 or visit vmc.usask.ca/about/payment.php.



WHAT TO EXPECT

While the WCV Veterinary Medical Centre (VMC) shares many similarities to other veterinary hospitals, there are some differences that may have an impact on your appointment.

The VMC is a teaching hospital for WCV veterinary students and for students enrolled in the veterinary technology program at the Saskatchewan Polytechnic. Please note that teaching takes additional time.

Students participate in all aspects of examining and treating our patients under the immediate supervision of licensed veterinarians and board-certified veterinary specialists. While teaching is essential to our facility, the well-being of our patients is the highest priority for VMC clinical teams.

Given the complexity of referral cases, we often need to order additional diagnostic testing or consult with others about diagnoses and treatment plans for patients. If you are travelling from out of town, please be prepared to stay two days in Saskatoon with your animal. In some cases, your stay may need to be longer. During your appointment, we will give you an estimate of the length of time it may take for additional tests and consultation.



UNIVERSITY OF SASKATCHEWAN

Veterinary Medical Centre

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