



Maryland Department of Agriculture

Office of Marketing, Animal Industries and Consumer Services

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Animal Health

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Practitioners Guide for Collection & Submission of Samples for Equine Neurologic Syndrome

Criteria for Reporting: All neurologic equine cases that are possibly infectious or contagious must be reported to the Maryland Department of Agriculture (410-841-5810 during business hours, 410-841-5971 after-hours & weekends). Primary differentials include Rabies, Equine Herpesvirus-1 (EHV-1), and Arboviruses during mosquito season. There is typically no laboratory fee when Rabies & EHV-1 testing is done on a reported neurologic case with proper sample submission as detailed below; free-of-charge Arbovirus testing is performed at the discretion of the State Veterinarian. Please call ahead for camelid (llama/alpaca) submissions as some testing exclusions apply.

Samples are submitted to the Frederick Animal Health Laboratory (FAHL) at 1840 Rosemont Ave Frederick MD, 21702 or the Salisbury Animal Health Laboratory (SAHL) at 27722 Nanticoke Rd. Salisbury, MD 21801 within 48 hours of collection. Currently, Rabies submissions & equine necropsy cases must go through the FAHL.

Collection of samples coinciding with onset of clinical symptoms and prior to euthanasia is strongly encouraged whenever possible. Optimal sample quality is critical to obtaining a clinical diagnosis and accuracy of test(s). Samples should be submitted and tested without delay.

Submission of all sample types is required for reported neurologic cases (postmortem submission only for rabies testing)

TEST	LAB	SAMPLE	COMMENTS	TURN AROUND TIME
EHV-1	FAHL or SAHL	10-20 ml EDTA whole blood	A minimum of 10 ml blood is required for accurate PCR.	Same day if received by 12 noon; must call ahead.
		Nasal swab	<u>Swabs</u> - Sterile polyester-tipped are best. Do not use calcium alginate swabs or swabs with wooden sticks. <u>Media</u> - 1 ml Viral Transport Media (VTM). 1 ml sterile saline is acceptable if immediately transported to lab & kept cold.	
Arbovirus	NVSL	10-20 ml serum	Performed at the discretion of the State Vet if EHV-1 is negative & if in-season or with appropriate travel history. Typically, Maryland Arbovirus surveillance season spans from July 1 to Oct 31, although mosquitos are often seen before and after this time.	Determined by lab performing test.
	MDH	Brain/CSF		
Rabies (non-human exposure)	FAHL	Brain	Submission of entire brain, head (preferred), or carcass is acceptable. Please note, the standard equine necropsy and/or disposal fees listed on the laboratory fee schedule may apply to whole equine carcass submissions. Please contact the FAHL prior to submission.	Same day if received by 12 noon.
Rabies (human exposure)	MDH			Determined by MDH.
Other Testing	To be determined	1ml CSF red top 1ml CSF purple top	Collect prior to euthanasia if possible. CSF quality is critical and is severely impacted post mortem. The FAHL will hold CSF for further testing pending EHV-1, Arbovirus, and Rabies testing. Further testing is at the discretion of the submitting veterinarian (and/or pathologist if necropsy performed) and is fee-based . <u>Examples:</u> Equine Lyme, Equine Protozoal Myeloencephalitis*, Vitamin E (serum), Equine Degenerative Myeloencephalopathy (EDM = histopathology/necropsy only – CALL AHEAD).	Determined by lab performing test.

*Typically, it is best to test for EPM using fresh CSF samples. The FAHL can send out for EPM testing if requested by submitting veterinarian; fee-based.

Sample Collection Procedure:

MDA Laboratories: Frederick Animal Health Laboratory - 1840 Rosemont Ave. Frederick, MD 21702 – (301) 600-1548

Salisbury Animal Health Laboratory - 27722 Nanticoke Rd. Salisbury, MD 21801 – (410) 543-6610

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1. Follow standard safety & biosecurity guidelines for EHV-1 & zoonotic disease exposure.
2. Blood- Collect via normal jugular venipuncture. Tube types & required volumes are outlined above.
3. Nasal swabs- Double swab (two swabs at once along the left or right ventral meatus, being careful to avoid the false nostril, until you are in the horse's nasal passage). Rotate the swab to increase the collection of respiratory secretions. Place both nasal swabs in one VTM or saline tube, assuring tips of swabs are fully submerged.
4. Label all tubes with horse name, owner's last name, date of collection, and any other relevant information.
5. Samples must be doubled bagged with absorbent material & wrapped with sufficient padding to ensure ice packs do not cause the samples to freeze. **Frozen samples are unacceptable for testing.**
 - a. Packing & shipping should be done according to current requirements for shipping biological specimens.
 - b. Send to the FAHL via early a.m. overnight delivery. Salisbury is not considered a main city and shipping could be delayed depending on the carrier; if shipping samples, it is best to ship to the FAHL. Please call ahead to provide tracking number.
 - c. Hand delivery is also acceptable to the closest lab; please call ahead.
 - d. **Samples are not routinely accepted on weekends or state holidays.** Prior to submission, please discuss with MDA if delivery would occur on a weekend or holiday.
 - e. A UPS shipping label can be provided to you free-of-charge if requested for reported neurologic equids. Call 301-600-1548.
6. **Virus survival is unlikely** if dry swabs are submitted or if submitted more than 48 hours post collection.

Required Submission Forms:

Please assure vaccine history and all pertinent clinical & travel history are included. This information is **critical** to managing these cases.

1. **FAHL Equine Submission Form for EHV-1 & non-human exposure Rabies:**
<https://mda.maryland.gov/AnimalHealth/Documents/FAHL%20Equine%20Services%20Request%20Form-12874-6.pdf>
2. **MDH Arbovirus Form & Info:**
https://health.maryland.gov/laboratories/docs/MDH_4619.pdf
3. **MDH Human Exposure Rabies Form & Info:**
<https://health.maryland.gov/laboratories/docs/Animal%20Rabies%20Submission%20Form%2008-2017.pdf>