

# Horse Have a Fever Without Cough, Nasal Discharge? Consider Tick-Borne Disease

When a horse spikes a fever without the nasal discharge and other respiratory signs you'd expect to see with an infectious disease, the potential causes could be vast. In some parts of the country, a tick-borne disease could be a culprit.

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In the Great Lakes region and eastern United States, which are the areas known to have the highest tick-borne-disease incidence in both human and animals, one suspect for fevers without accompanying respiratory signs is tick-borne disease. | Photo: iStock

When a horse spikes a fever without the nasal discharge, coughing, and other respiratory signs you'd expect to see with an infectious disease, the potential causes could be vast. In the Great Lakes region and eastern United States, which are the areas known to have the highest tick-borne-disease incidence in both human and animals, one suspect is tick-borne disease.

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To find out how prevalent tick-related fevers are in horses, Linda Mittel, MSPH, DVM, senior extension associate

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at Cornell University's College of Veterinary Medicine, in Ithaca, New York, studied causes of fever of unknown origin (FUO). She presented her results at the 2018 American Association of Equine Practitioners Convention, held Dec. 1-5 in San Francisco, California.

In her case-control study Mittel surveyed clientele from 15 equine practices in nine eastern states and Wisconsin, which are known to have high tick populations. From the responses, she included 52 horses that had experienced a fever of unknown origin (FUO) and 52 healthy horses from the same farm as matched controls in the study. She also included an additional 23 FUO cases without matched controls. Ticks were collected from each farm environment and identified and tested for agents they were carrying.

Mittel obtained blood samples from each horse and tested for DNA of two of the most common causes of equine fever without respiratory signs—the bacteria *Anaplasma phagocytophilum*, which causes the tick-borne disease **anaplasmosis**, and *Neorickettsia risticii*, which causes **Potomac horse fever**—plus other bacteria and parasites. She also analyzed other genetic material in each sample. Mittel found that:

- Clinical signs reported in horses with FUO included depression, coughing, lethargy, colic, lameness, abnormal feces, anorexia, and jaundice;
- One horse tested positive for *N. risticii* and 10 for *A. phagocytophilum*; and
- Genetic sequencing revealed “lots of different organisms,” she said.

While these results confirmed, as expected, that *Anaplasma* is a common cause of FUO in these regions, “I was surprised and a little disappointed we didn’t find something really cool,” said Mittel.

Her take-home for veterinarians and owners was that not every FUO without evidence of respiratory disease is caused by ticks and to remember there are other organisms to consider.

Mittel said she’s doing follow-up tick-borne panel tests to continue looking for additional tick-borne diseases that cause these fevers.

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