



## POTOMAC HORSE FEVER

### (Equine Monocytic Ehrlichiosis, Equine ehrlichial colitis, or Acute Equine Diarrhea Syndrome, *Neorickettsia risticii*)

[Definition](#)  
[Clinical Signs](#)  
[Incubation Period](#)  
[Risk Factors](#)  
[Transmission](#)

[Diagnostic Sampling, Testing and Handling](#)  
[Post-mortem](#)  
[Shedding of Virus Following Resolution of Clinical Signs](#)

[Environmental Persistence](#)  
[Specific Control Measures](#)  
[Biosecurity Issues for Receiving Animals](#)  
[Zoonotic Potential](#)

<b>Definition</b>	Potomac Horse Fever (PHF) is a non-contagious, infectious equine disease caused by the rickettsial organism <i>Neorickettsia risticii</i> (previously known as <i>Ehrlichia risticii</i> ). The disease can affect any age, breed or sex of horse. PHF cases usually occur in summer and fall, but may occur in any season depending on weather conditions.
<b>Clinical Signs</b>	<p>Highly variable, including:</p> <ul style="list-style-type: none"> <li>• High fever to 107° F (41.6° C) reported. Fevers may occur 7–14 days before signs of colitis develop</li> <li>• Diarrhea: variable, ranging from absent to severe</li> <li>• Depression</li> <li>• Anorexia</li> <li>• Lethargy</li> <li>• Laminitis (with or without diarrhea) may progress from mild to severe</li> <li>• Mild to moderate colic</li> <li>• Decreased gastrointestinal sounds</li> <li>• Edema of limbs and ventral body, prepuce of males</li> <li>• Abortion (by transplacental transmission)</li> </ul> <p>Note: Concurrent infections with <i>Salmonella</i> have been documented.</p>
<b>Incubation Period</b>	Approximately 1–3 weeks
<b>Risk Factors</b>	<ul style="list-style-type: none"> <li>• Housing near (within approximately 5 miles) a freshwater stream or river or on irrigated pasture in endemic areas</li> <li>• Nighttime use of barn lights which attract parasitized insects</li> </ul>
<b>Transmission</b>	<ul style="list-style-type: none"> <li>• Oral ingestion of trematodes present in aquatic insects (caddisflies, mayflies, damselflies and dragonflies)</li> <li>• Whole blood transfusion from an infected donor</li> <li>• Transplacental</li> <li>• Exposure to freshwater or operculate snails</li> </ul> <p>(Note: Affected horses are not considered to be contagious by natural contact with other horses.)</p>

**Diagnostic  
Sampling, Testing  
and Handling**

**PHF**

<u>Sample</u>	<u>Test</u>	<u>Shipping</u>	<u>Handling</u>
Fresh feces	PCR (check if lab will test feces)	Leakproof container	Chilled overnight
Whole blood	PCR	EDTA tube	Chilled overnight
Serum	IFA	Red top tube; leakproof container	Chilled overnight
Large intestinal tissue; cecum	PCR	Leakproof container	Chilled overnight
Aborted fetal tissue	PCR	Leakproof container	Chilled overnight

Immunofluorescent assay (IFA) titers (serum): This test yields many false positive results. Interpretation of results must be made in consultation with laboratory personnel with consideration of PHF vaccination history. Single serum titers are of limited value in the confirmatory diagnosis of PHF.

**Post-mortem**

Gross necropsy findings in the acute stage of PHF disease include:

- Distended large colon and cecum filled with watery contents
- Mucosal hyperemia and ulceration (may be widespread)
- Hyperplasia of lymphoid follicles and lymph nodes

Aborted fetus lesions include:

- Increased content within the small and large intestine
- Hepatic discoloration

Submission of tissues for microscopic examination is indicated to facilitate a definitive diagnosis.

**Shedding of Virus  
Following  
Resolution of  
Clinical Signs**

Confirmed PHF cases are not considered contagious.

**Environmental  
Persistence**

The organism is not known to be free in the environment but is instead harbored by certain aquatic insects and snails.

**Specific Control  
Measures**

Routine isolation and disinfection guidelines should be followed, including appropriate disposal of manure.



In situations where insect attraction has occurred fouling horse feed and water, keep barn lights off where practical to discourage insect travel from water habitats.

**Release of Animals from Isolation**

- Any diarrheic horse should be isolated until the cause can be established
- Coinfection with additional contagious agents is possible in *N. risticii* - infected horses, therefore a comprehensive fecal diagnostic investigation should be undertaken
- If PHF is proven to be the only cause of the observed illness, isolation protocols can be relaxed as it is not considered a contagious disease

**Biosecurity Issues for Receiving Animals**

Diarrheic horses should be isolated as a matter of routine until contagious causes can be ruled out and normal feces are produced

**Zoonotic Potential**

None known.