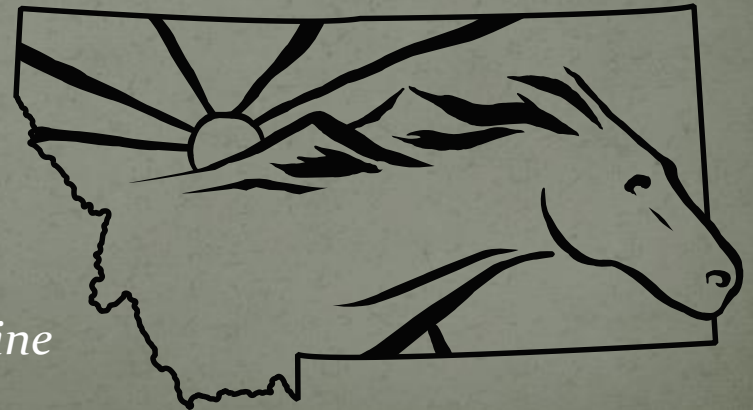


# Equine Respiratory Conditions

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Montana Equine Medical & Surgical Center



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EHV

Heaves

# Shipping Fever

# Upper Respiratory Obstruction

# Strangles

“The Flu”

# Take Home: Shipping

- Trailering creates significant amounts of physiological stress.
- When animals are stressed, cortisol (stress hormone) is secreted from activation of the pituitary and adrenal glands
  - may influence immune function
  - increased blood glucose levels.
- If cortisol-mediated responses reach a certain magnitude and/or duration, they can cause significant immunophysiological disturbances.
  - Horses with prolonged elevated blood glucose due to chronic high cortisol secretion can develop insulin resistance, which may lead to muscle wasting and chronic, recurring laminitis.
- 24-hour transport in a commercial trailer can cause physiologically significant rises in cortisol and suppression of lymphocytes. This alteration can make horses more susceptible to infections



- When possible, dividing long trips into several shorter segments can reduce the immunologic stress horses endure.
- Transporting horses has been shown to diminish levels of T cells.
- The degree of reduction in T cell numbers was greater in horses shipped for 24 consecutive hours than horses shipped in two 12-hour segments with a 12-hour resting period in between.
- During resting periods, cortisol levels also returned to more normal values, indicating horses were less immunologically stressed. Allowing horses sufficient time to rest, eat, and drink is an important part of keeping horses healthy during long journeys.
- A decreased immune response combined with exposure can lead to disease. Confining horses in close proximity to each other increases their chances for exposure to contagious agents. During times of stress, horses harboring disease often transmit greater numbers of infectious agents.
- Horses are particularly susceptible to contracting respiratory infections because many of these agents are transmitted in aerosols and reduced ventilation in trailers increases their concentration.

So what can you do?

# Heat Stress During Transport

- Horses being transported must continually adjust their position to keep their balance
  - requires repeated muscle contractions.
  - In the horse, 75-80% of muscle metabolism is released as heat that must be dissipated from the body to prevent overheating.
- The primary mechanism of heat loss is achieved by sweating, along with evaporation of water across the respiratory tract.
- A horse's homeothermic capabilities vary based on the climate it is acclimated to, but all horses should be transported in a fashion that maintains their rectal temperature below 102°F (38.9°C).

- Dehydration also impairs thermoregulatory capabilities and is often seen in horses transported in warm weather for long durations.
- 2000 Study: Horses showed an average 6% loss of body weight when unloaded after conveyance and had a significant increase in hematocrit.
- Dehydration is attributed to sweating due to the prolonged time spent in hot enclosures and decreased water intake as horses are held off water during transport.
- Without proper attention, severe dehydration can lead to hypovolemic shock and other circulatory disturbances such as peripheral and pulmonary edema, laminitis, and disseminated intravascular coagulation.
- It is important to offer them free access to water as soon as possible. This will help return their body temperature to within normal range and prevent further circulatory disturbances.

- inexperienced travelers, and the process of loading and shipping can cause physical injuries and significant psychological stress. In addition to increases in cortisol, studies have shown that a horse's heart and respiratory rates are increased well above baseline values during loading and the first 6-12 hours of transport. [Source](#)
- Following proper horse handling guidelines will reduce injuries to the animals and people involved, and will help minimize psychological stress in horses.

# MONTANA EQUINE MEDICAL SURGICAL CENTER



- Thank you!!!
- Please feel free to call or email with follow-up questions!!!

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