The Stress of Transportation

Travel Sickness / Shipping Fever

with **Dr Paula Williams**
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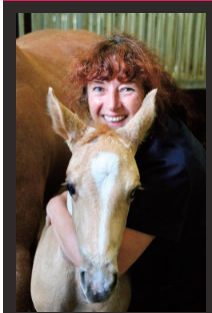


Paula qualified in the UK in 1993 and has been an equine veterinarian since then. She completed an internship at Rossdale and Partners in Newmarket, UK and has subsequently worked in equine hospitals both in the UK and Australia. Paula is currently an equine practitioner at WestVETS Animal Hospitals in Queensland.

Her clinical interests include diagnostic imaging, the investigation and management of musculoskeletal issues in the equine athlete, the equine foot, neonatology and internal medicine.

What is travel sickness?

Travel sickness in the horse was first recognised during the Boer and First World Wars when horses were travelled over long distances to the battlefield. Given the size of Australia and with horses travelling long distances within states and interstate, travel sickness or shipping fever is a relatively common disease that is seen. It can occur when horses are travelled over land, by sea and by air.

Travel sickness is a respiratory disease of the lungs and the pleural cavity (the space surrounding the lungs) – **Pneumonia** or **Pleuropneumonia**. The disease can be severely debilitating and even life-threatening.

The risk of travel sickness increases with the duration of travel and can occur even after six hours of travel. There is a dramatic increase in cases after ten hours of travel, and 10% of horses will develop it after 24 hours of travel.

Why does it occur?

In the normal horse, there are important defence mechanisms in the respiratory tract to prevent bacteria colonising the lungs:

1. **Mucocillary clearance** – continuous movement of mucous up the trachea away from the lungs
2. **Macrophages** – specialised "housekeeping" cells that roam the lungs and engulf foreign material and bacteria

In the travelled horse, these defence mechanisms are challenged due to several factors:

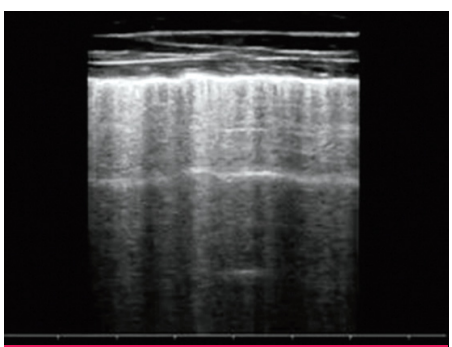
1. Confinement with limited ventilation and poor air quality
2. Possible underlying respiratory disease prior to travel
3. In contact with other horses that may have a respiratory infection
4. Elevation of the head during travel leads to the accumulation of bacteria and secretions in the upper respiratory tract which then can enter the lungs via gravity
5. Dehydration affects mucous production
6. Stress contributes to immune suppression

As a result of these, the failure of the mucocillary clearance leads to the accumulation of bacteria in the lung resulting in infection in the lower respiratory tract.

What occurs in the lung?

Bacteria colonise the lungs causing inflammation and infection – **Pneumonia**. This can worsen and spread to the outer cavity of the lung resulting in infection and fluid accumulation – **Pleuropneumonia**. Both of these lead to difficulties in breathing and systemic infection.

There are several types of bacteria implicated in travel sickness and often multiple types may be implicated – the more common ones include Streptococcus, Pasteurella, Klebsiella, Actinobacillus and Escherichia coli.



Ultrasound of pneumonic lung

Ultrasound of pleural fluid accumulation

Clinical Signs

It is important to recognise signs early so that prompt treatment can be initiated to help limit rapid progression.

Your horse must be tied loose enough that it can get its head down to clear the respiratory airway

"The risk of travel sickness increases with the duration of travel and can occur even after six hours of travel."

Travel sickness can be seriously debilitating with long term effects on lung function and can be fatal. The signs usually occur within 24 hours of travel, but sometimes up to 14 days.

- Lethargy and depression
- Inappetence
- Reluctance to move
- Grunt when moved
- Stiff gait when moving
- Lying down
- Cough
- Elevated respiratory rate
- Fever
- Nasal discharge

If your horse is showing any of these signs after travel then contact your veterinarian promptly.

How is travel sickness diagnosed?

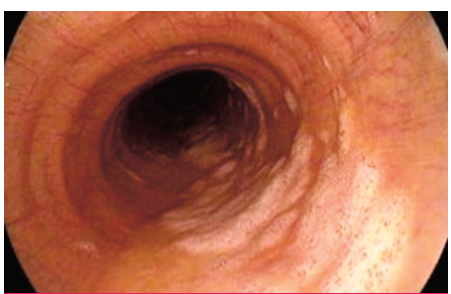
Travel sickness is diagnosed with a history of travel, clinical signs, blood samples to look at white blood cells, blood proteins and inflammatory markers, ultrasound of the chest, endoscopy of the airway and sampling of fluid from the trachea and pleural fluid.

What is the treatment?

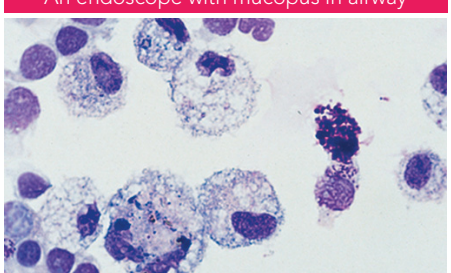
Early recognition and prompt treatment are crucial for a positive outcome. Treatment may be aggressive, prolonged and expensive.

Treatment includes:

- Intravenous fluid support
- Broad-spectrum antibiotics
  - These are targeted to the cultured bacteria from samples
  - Often protracted courses required
- Anti-inflammatory medications and pain relief
- Nebulisation (administration of medications directly into the airway via mask and nebuliser)
  - Antibiotics
  - Clenbuterol
  - Saline
- Chest drains
  - To remove the pleural fluid accumulation



An endoscope with mucopus in airway

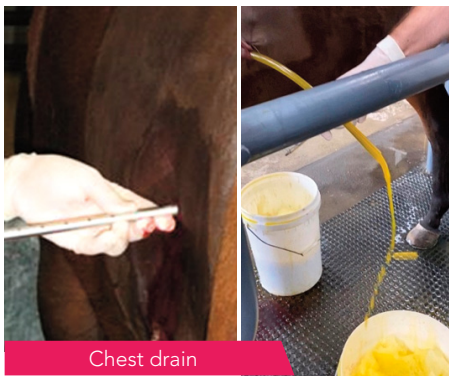


Macrophages in a lung wash

What is the prognosis?

Travel sickness is a very serious disease and can be fatal. There are serious effects on lung function and therefore future athletic use can be influenced. 70% of cases will survive and 30% will gain full athletic potential. A delay in therapy results in a poorer prognosis, so early recognition is the key.

Some of the complications that can occur are laminitis, lung abscesses, bronchopleural fistulas and death.



Chest drain

Prevention

Although there are no guarantees, there are certain management strategies that may help in the prevention of travel sickness.

These include:

- Rest before and after travel
  - Prevent strenuous exercise and other forms of stress prior to and after travel
- Ensure good ventilation in transport
- Allow horse's head as much freedom as possible
- Don't allow hay at head height
  - Ensure dust-free forage
- Travel during cooler and less humid times
- Regular stops and breaks
  - Place feed and water on the ground so the head is down
  - As a general rule four hours of head up requires one hour of head down
- Don't travel sick horses
- Monitor temperatures in the five days prior to travel
- The use of antibiotics prior to travel is not advised
  - Does not prevent travel sickness
  - May cause other issues

Summary of Travel Sickness

Travel sickness is a severe respiratory disease of the lung and pleural cavity – pneumonia and pleuropneumonia. It is caused by travel over long distance. The main factors contributing to the disease are the horse's head being tied up affecting the mucocillary clearance of the lungs and the poor ventilation in transport. Early recognition is the key to a successful outcome, so it is imperative that you monitor your horse closely after travel, and if they don't seem right, contact your veterinarian promptly.