

Reducing Transport Stress

BEFORE TRANSPORT

- Teach or train the horse to load, unload and haul quietly. This will drastically reduce the stress levels right from the start of travel. Loading is by far the most stressful single aspect of transport (other than ultra-long duration hauling).
- Make sure your preventative health program, particularly vaccinations, is up to date. Vaccinations take 2 to 3 weeks to provide protection.
- Make sure you have the proper health records for any regulatory requirements, especially if crossing state lines or country borders.
- Select a van or trailer that suits your horse's size and temperament, preferably one that allows the horse to lower its head as this can make a significant difference. Make a safety check of the trailer (see section below on **Transport Vehicle Safety Check**).
- Inspect the transport vehicle for cleanliness and sanitize if necessary.
- If hiring a commercial transport company, make sure the grooms and other caretakers are experienced in handling horses and their care.
- Plan the route to minimize duration, along with any extremes in weather or environmental temperatures.
- Ensure that the flooring remains nonslip for the entire trip. Provide absorbent bedding to help soak up any urine and manure excreted.
- Ensure adequate ventilation in the transport vehicle.
- Avoid prolonged stationary periods in traffic or at refueling stops. A trailer in the sun can be more than 20 degrees warmer inside than outside. Traffic delays during the summer, with associated fumes, can be disastrous to the horse. Unload if safe to do so if a prolonged delay is apparent.
- Provide a well-fitting halter; leather is ideal.
- Bring sufficient feed and water.
- Have an effective means of restraint.
- Plan for rest or recovery periods. Offer water every 4 to 6 hours, or every 3 to 4 hours in hot weather. If possible, pick up manure and urine at the same time intervals.
- Check that veterinary help is available if required.
- Notify the point of arrival of the journey plan and any special requirements.

Tranquilization and Familiarization

Many horses have been familiarized with transport from a young age. And, even many that have never been transported before will often readily allow themselves to be loaded and confined in a transport vehicle. A small minority of horses may be difficult to handle during transport. Tranquilization by a veterinarian may facilitate loading and assist with the safe handling of the horse during transport. However, the medication can interfere with temperature regulation, so should be done with caution.

Water and Electrolytes

Unless a horse has a history of dehydration, excessive or uncontrolled administration of electrolytes may actually have adverse effects on water and electrolyte balance in the horse. Check that a horse that is to be transported has been drinking normally in the days leading up to transport, and especially immediately before transport. The pretravel administration of oral or intravenous fluids is not usually recommended unless the horse has a history of developing dehydration during travel.

Body Weight

It is normal for a horse to lose weight during transport. The amount of weight lost can range from 0.45 to 0.55% of total body weight (about 5 to 6 lbs in a normal mature Thoroughbred) per hour of transport. This weight loss may reflect reduced dietary intake during travel, dehydration, manure and urine excretion, and sweating. Horses can lose 45 lbs (20 kg) on international flights, and horses with shipping fever may lose 75 lbs or more en route. Horses traveling greater than 12 hours have been found to lose up to 5% of their body weight. Weight loss in transit tends to be regained over the following 3 to 7 days in healthy horses, and possibly over longer periods in horses with shipping fever.

It is recommended that horses be weighed before travel to establish a baseline for comparison with weight status on arrival and in the recovery period. Since scales are likely to vary, weigh two large sacks of feed and record their weights. Keep the sacks intact to weigh on the scale at your destination. You will then be able to compare departure with arrival weights, compensating for differences in scale accuracy. Weight tapes, when applied correctly, tend to be accurate within 40 pounds.

Respiratory Health and Disease

One of the fundamental rules of transport is: *Sick horse on, sicker horse when getting off.* The importance of avoiding the shipment of horses that are even slightly sick (other than for transport to a hospital or clinic) cannot be overemphasized. This is especially true for horses with respiratory illness. Horses with fever or nasal discharge, those with a history of exposure to other horses with infectious respiratory disease (such as strangles or viral respiratory infections) should not be transported.

Medication

Unnecessary medication should be avoided, especially before travel. Adverse reactions are always a possibility with any therapeutic substance. Tranquilizers should be administered only by a veterinarian and are not recommended unless necessary.

Transport Vehicle (Trailer/Van) Inspection

Prior to departure, the transport vehicle should be carefully inspected to be sure that it is safe and road-worthy. Special attention to competency of flooring should be paid in all trailers.

- All lights are in working order.
- Brakes are fully operational.
- Doors fully open and close and can be locked properly.
- Vents fully open and close.
- The trailer floor and any loading ramps have been thoroughly checked.
- If rubber mats are used, make sure these are flush with floor to avoid any tripping during loading and traveling.
- Emergency trailer brake box has been tested and is in working order.
- Tire pressure is adjusted according to the manufacturer's suggested levels.
- The spare tire is accessible and properly inflated.
- The vehicle is stocked with an appropriate trailer and truck jack as well as tire chocks (a wedge placed behind a vehicle's wheels to prevent accidental movement).
- The hitch is functional for the trailer and the vehicle.

Route Plan

The route for road transport should be carefully considered. Plan the time of day for transport to avoid extremes of heat or cold. Night travel may be advantageous because ambient temperatures will be lower during hot weather, traffic is likely to be lighter so as to avoid stops and starts, refueling may be faster, and horses may be more relaxed during the evening.

Plan the route so that it is possible to stop regularly to check horses and offer them water every 4 to 6 hours. Locate veterinarians along the way in case of a medical emergency during transit.

Flight Plan for Air Transport

The duration of confinement to the air should be minimized as much as possible. Loading and unloading of planes should be facilitated in every way possible. The shortest route to reach a distant destination is always preferred. The duration of ground stops should be minimized and auxiliary ventilation systems should be used to maintain excellent air quality. Typically, the worst air quality occurs during ground times. Planes are much better ventilated when aloft. Relative humidity and temperature rise quickly in a stationary closed vehicle, especially in warm climates and sunny conditions.

Emergency Preparedness

Consult your veterinarian for his/her recommendation for what to include in a first aid kit prior to travel. Some essential items should include sterile bandage material, adhesive wrap and tape, leg wraps, scissors, rectal thermometer, antiseptic solution, latex gloves, and PVC tubing cut into lengths of 1.5 to 2 feet (for emergency splinting).

Blankets and Bandages

Bandages and bell boots for leg and coronary band protection can be useful if horses are accustomed to wearing them. If not (i.e., foals or yearlings), shipping boots or bandages may be a liability instead of an asset. Train the horse to wear protective bandages if you plan to use them. If the horse is blanketed (not advised unless it is cold), select a blanket that will not overheat the horse and cause sweating. Remember the horse will be using his muscles to balance and there may be limited ventilation once the vehicle is fully loaded with horses.

Recovery Period

Despite every effort at preventing shipping fever or other transport-related disease, some horses will become ill during or within the first 3 days following transport. It is advisable to plan for a convalescent period of at least 3 days after shipping to allow for treatment of horses that may be ill. Contact a veterinarian if the horse exhibits nasal discharge, refuses feed, or has an elevated rectal temperature.

DURING TRANSPORT

Duration of Journey

Journeys of 3 hours or less than 500 miles are unlikely to be associated with transport-related diseases, dehydration or fatigue due to energy expenditure and reduced feed intake.

Road transport time per day should not exceed 12 hours from the time the first horse is loaded on the vehicle. After 12 hours of transport, horses should be removed from the vehicle and comfortably stabled for at least 8 hours. This time period is necessary for tracheal clearance and rehydration.

Behavior and Injury

Horse behavior should be monitored regularly throughout any transport. Additional skillful help may be required if a horse becomes extremely agitated. Any depression or injury in horses should be noted and appropriate first aid action taken wherever possible.

Feed and Water

Clean water should be offered regularly—approximately every 3 to 6 hours—during prolonged ground or air transport. If possible, it may be advisable to bring water from home as some horses are reluctant to drink water that is not from the home sources. In warmer conditions, high humidity, or when horses are sweating, water should be offered more frequently.

It is important that horses eat during long journeys. However, it is also imperative that the environment on the transport vehicle have as little contamination of the air with respirable particles as possible. In particular, the breathing zone around the horse's muzzle should not be heavily contaminated with particulate matter. Because hay nets must be placed very close to (or within) the breathing zone, it is essential that hay be as dust-free as possible. It is therefore recommended that hay be thoroughly soaked in water before being loaded on the vehicle or fed in a net to horses.

Head Posture

Horses should be given as much freedom of movement of their heads as is safe. Restraint in the head up posture for prolonged intervals may severely compromise lung clearance mechanisms and predispose a horse to shipping fever. Hay nets should be placed as low as possible while still assuring that horses cannot entangle their feet in the nets. Alternatively, horses travel well in small box stalls in which they can extend their heads to the floor to consume hay. Please see article on *How Cross-Tying Affects Horses During Transport* (page 11).

Orientation During Transport

Orientation of the horse within a transport vehicle has been identified as a potential source of stress. Several studies have examined horses facing toward or away from the direction of road travel. With some variation, the studies suggest that horses facing away from travel experience less stress and better ability to clear their airways and adjust posture. While most horses seem to prefer this, there is evidence that some individuals prefer head forward and may show greater signs of stress if forced to ride backward. It is not known whether the horses respond this way because they have become accustomed to it or for other reasons. Decisions regarding restraint and orientation during travel should be made on a case-by-case basis. Greater caution is required when opening the doors of a trailer with an unrestrained horse inside.

Ventilation and the Environment

There are a number of factors about air quality that impact the respiratory system. The properly designed trailer or van will allow for adequate ventilation without a gale force draft directly on the horse or a total drenching if it rains. That said, it is almost impossible not to have the airflow in a trailer recirculate rear to front along the floor, bringing noxious fumes up for the horses to breathe. The pressure profiles along a moving trailer largely dictate that there will be lots of rebreathing. More open-stock trailers potentially offer significant advantages for ventilation and reduced heat load during the summer.

Ensure that potential factors that can negatively impact air quality within the trailer/van are minimized. The exhaust system of the vehicle should be inspected yearly. If the truck has a vertical exhaust similar to that on a tractor-trailer, it should be taller than the ceiling of the van or trailer and not be flowing in the immediate vicinity of an intake vent. Note that diesel exhaust can be more harmful than gasoline exhaust, and keeping either engine in proper maintenance can decrease its emissions. (Health concerns about diesel exhaust relate not only to cancer, but also to other health problems such as lung and heart diseases.) Breathing of exhaust fumes can be an irritant to the respiratory system and excessive fumes in an enclosed compartment can cause death due to carbon monoxide poisoning. Deaths of horses in trailers have been reported when the wind currents during transit directed the exhaust directly into closed trailers.

Urine-soaked bedding or poor drainage from the trailer can also have a negative impact on air quality. When urine breaks down, a substantial amount of ammonia fumes can be generated. Excessive inhalation of ammonia fumes can cause respiratory irritation that predisposes the horse to respiratory problems. Recent research suggests that in the case of long road journeys there is benefit in removing feces and urine-soaked material during periodic stops.

AFTER ARRIVAL

Horses that travel well will be bright and alert with a normal rectal temperature upon arrival at their destination. Unload horses as soon as possible to avoid additional confinement and other stress factors. They should voluntarily drink and be keenly interested in eating within 1 or 2 hours of arrival. Hand walking or turnout in a small paddock for an hour or so upon arrival after a long journey is recommended.

Ideally, dietary adjustments are made over 7 to 10 days to decrease the likelihood of digestive upsets. A normal horse passes approximately one pile of manure every 3 to 4 hours. Any decrease in manure output should be reported to a veterinarian.

Monitoring

Rectal temperature should be recorded morning and evening. When possible, weigh horses upon arrival and then daily at the same time for the next 3 to 7 days. Comparison with a pre-transport weight is useful to quantify actual weight losses and to assess the effects of shipping.

Horses with signs of shipping fever (see section above) will be readily identified by this monitoring system. Some horses will not show signs of shipping fever until 2 to 3 days after transport. Occasionally, horses may have colic or diarrhea after shipping. Seek veterinary assistance immediately if transport-associated disease is suspected.

Recovery Times

A specified recovery interval should be part of the pre-shipment plan for horses making long journeys.

For road journeys of 6 to 12 hours, a one-day rest period is likely to be sufficient. When horses travel longer than 12 hours by road or are transported by plane, a recovery period of 2 to 3 days should be planned. Research at UC Davis in horses transported 24 hours by road in a commercial van has shown that physiological parameters, especially white blood cells, take 24 hours to return to normal levels for horses transported in box stalls and an additional day for horses cross-tied during the trip.

Horses traveling long distances for performance events should arrive 5 to 6 days prior to the competition date to comply with medication withdrawal rules in the event of travel-associated illness. Horses with shipping fever may need 3 to 4 weeks to resume athletic activity. ❄

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