

Transportation: 10 Tips to Minimize the Stress

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Transportation is an integral part of owning horses. The stress accompanying transportation can cause metabolic and immune dysfunction leading to poor performance and increased risk of infection. Horses are subjected to many stressors during transportation; physical restraint from normal activity, abnormal head carriage, close proximity to other horses, isolation from herd mates, novel surroundings, exposure to new pathogens, extreme temperatures, water and/or feed deprivation, dust, particulate matter and breathing ammonia tainted air.

A recent online survey of horse transportation-related health problems indicated that respiratory problems were most frequently reported (33.7%), followed by gastrointestinal problems (23.8%) and injuries (16.3%) (Padalino et al., 2017). This survey and previous studies indicate that journey duration is positively associated with development of serious health problems and journeys longer than 24 hours pose the greatest risk. Compared to travel lasting less than 8 hours, the likelihood of respiratory diseases was 15 times greater on journeys of 8-24 hours and 100 times greater on journeys of more than 24 hours. Although we cannot eliminate the stress, studies conducted over the past decade have revealed some ways to mitigate stress before, during, and after the trip.

1. Ulcer prevention before transport

Horses are highly prone to stomach ulcers and this process is accelerated during fasting conditions. Although the horse may have access to hay during transport, many horses will choose not to eat. Horses tend to eat more during the first 1-2 hours and will decrease intake as the journey continues. Researchers demonstrated as little as 4 hours of transport induced ulcers in horses that had none prior to departure (McClure, Carithers, Gross, & Murray, 2005). Medicated ulcer prevention, such as omeprazole, cimetidine or ranitidine, at least 1 hour before transport and/or providing appetizing hay

during the trip can help reduce the risk of ulcers. Of course, do not provide hay with which the horse is not accustomed.

2. Tied or loose in the trailer?

For safety reasons, a common management practice is to tether horses with a halter and lead during transport. Horses rely heavily on the ability to lower their head and drain respiratory accumulations through their nose. Normally, inhaled dust and allergens from hay being eaten off the ground would be easily eliminated by this method of gravity flow. The inability to lower their head during transit and drain inhaled particles, contributes to increased risk of respiratory infection following transportation. The obvious solution to this problem is to not tie them; however loose horses stand with their heads elevated in order to maintain balance while the trailer is in motion. Head elevation during transportation cannot be totally eliminated but loose horses benefit from the ability to lower their heads during rest stops.

3. Upon arrival, let their head down!

Once you arrive at your destination, encourage your horse to lower their head so they can drain the accumulated debris. If possible, place hay on the ground or allow the horse to graze. Providing turnout after transportation is not only beneficial for nasal drainage but also stimulates circulation and helps to stretch their legs. If you do not have access to a stall or turnout, unloading your horse and allowing them to eat from the ground is better than leaving them on the trailer with a raised hay net.

4. To hay or not to hay?

Providing hay during transport is beneficial for ulcer prevention, promoting gastrointestinal tract movement and alleviating boredom but it also increases the amount of inhaled dust and allergens. Most studies agree that inhaled particles are undesirable but one study showed horses that had hay during transport, actually inhaled less particles compared to horses without hay (Allano et al., 2016). The researchers suggested low hanging hay nets in the trailer encouraged horses to lower their heads

thereby increasing nasal drainage. Ultimately, providing hay during transit, possibly low hanging, is more beneficial than not.

5. Feed wet hay during transport

One solution to minimize particle inhalation is to feed damp or wet hay. Additionally, because voluntary water intake will decrease during transportation, feeding wet hay will help decrease the risk of dehydration. Because some horses may not readily eat wet hay, horses should be properly acclimated before transportation. Upon arrival at your destination, offering wet instead of dry feed will help rehydrate and prevent choking since the horses will likely be hungry and eat quickly. Wet hay not consumed within 24 hours should be disposed of to prevent mold growth. Although wet hay will help increase water intake, planned rest stops to offer water in buckets are also necessary.

6. Plan for rest stops every 2-4 hours

Rest stops are very important for several reasons. Water, preferably from their home farm, should be offered in buckets at least every 4 hours. During transport, dehydration can occur within 8-24 hours and is accelerated by hot conditions or large intake of dry hay. In these situations, water should be offered more frequently. Fortunately, recovery from dehydration can occur within hours of rehydration. You can offset a difference in water taste and encourage drinking by using a flavoring agent, if the horse is properly acclimated before transport (Mars, Kiesling, Ross, Armstrong, & Murray, 1992). Rest stops are also important to allow male horses to urinate. This is a difficult action while the trailer is moving because of the posture and balance required. If possible, cleaning the trailer during rest stops will also help eliminate noxious gases and may reduce stress.

7. Orientation in trailer is individual

Many studies have investigated horses traveling rear-facing, forward-facing or slant-loaded. Scientifically speaking there is no advantage to these orientations and it appears to be based on individual preference. Likely some horses prefer to ride rear-facing to avoid a saddle compartment at the front of the trailer or because the back of

the trailer is more open and light compared to the “dark cave” aspect at the front of the trailer. Slant-load trailers may be more desirable to some horses because each stall has a window and the stalls are often bigger. One researcher suggested that when turning a trailer, rear or forward facing horses must lean diagonally whereas slant-loaded horses’ are already oriented perpendicular to centrifugal forces of the turn and can more easily maintain balance; however this has yet to be proven.

8. Driver’s experience is important- go slow!

Accelerating, decelerating and turning require the most balance and muscle activity by horses. Heart rate and muscle activity related to maintaining balance are both strongly affected by the driver’s experience. One study showed horses transported by inexperienced drivers had higher heart rates and more muscle activity indicating continual postural adjustment to maintain balance (Giovagnoli, Trabalza Marinucci, Bolla, & Borghese, 2002). Although studies show driving style and experience can increase or decrease the associated stress, it is unclear whether this translates into hindered performance or increased risk of infection. In general, drivers should navigate turns slowly and gradually accelerate and/or decelerate to reduce the effort required for the horses to maintain balance.

9. Muscle usage during transport

Several studies have investigated muscle usage and energy expenditure over various distances. Most agree that muscle usage during transport is similar to the horse undergoing moderate exercise. Based on metabolic processes within the body, one study found that 186 miles of transport was similar to cantering for 0.93 miles (Codazza, D., Maffeo, G. and Redaelu, G., 1974). Another study reported the energy used during 30 minutes of walking was similar to 30 minutes of transport even though the horses are standing still (Doherty, Booth, Waran, Salthouse, & Cuddeford, 1997). Overall, transport requires active participation by the horse to maintain balance and this should be taken into account when transporting to competitions.

10. If transporting >8 hours, rest should be given

In many cases, duration of transport has the largest effect on the associated stress and risk of negative health outcomes. Research has indicated transporting for >8 hours without rest can hinder performance. However, journeys of any length immediately before competitions can also reduce performance, particularly when horses are less experienced travelers (Covalesky, Russoniello, & Malinowski, 1992; Slade, 1987). If transportation to a competition requires >8 hours of travel, consider overnighting somewhere to allow the horses to recover. Alternatively, you can provide rest by stopping the trailer and untying the horses so they can lower their heads. Based on the transportation induced elevation of muscle enzymes, a recovery period of 2 hours for every 3 hours of travel has been suggested (Tateo, Padalino, Boccaccio, Maggiolino, & Centoducati, 2012). Although rest is less important if there is no physical exertion required upon arrival, transportation stress can still cause many unwelcome side effects and rest should be considered for all horses being transported. Horses should not be transported for >18 hours without being unloaded and allowed physical exercise.

Transport stress is not uniform but caused by a variety of simultaneous stressors from many different sources. This complex stressor triggers a physiological response that can produce undesirable health outcomes. Research has shown horses may require 10 transport episodes to become familiarized with the process (Schmidt et al., 2010). Although we know horses can acclimate to transportation and be less psychologically affected, the physical stressors remain. It is important to remember that horses will continue to be challenged with stressors upon arrival at their destination but these steps will help minimize the physical effects of transportation and promote faster recovery.

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