

To Stress or Not to Stress?

A leading expert offers a different perspective on trailer stress

story by **Hope Ellis-Ashburn**

If you are anything like most horsemen and -women, worry about the health, safety and welfare of the horses in your care is your constant companion. However, concerns about any stress your horses may be experiencing while trailering—at least on short trips from track to track—shouldn't be.

From the outside looking in, it may seem as if racehorses lead a fairly stressful life. After all, it's commonplace—for Standardbreds, at least—to race at one track, only to load up and travel to race at another within a week. However, according to Karyn Malinowski, Ph.D., extension specialist in horse management and director of the

Equine Science Center at Rutgers University, in New Brunswick, N.J., stress, be it travel-related or otherwise, usually isn't an issue for our resilient horses. Dr. Malinowski is uniquely qualified to speak on the subject due not only to her research on the topic, but also because she owns and races Standardbreds.





Stress Defined

Before beginning any discussion about stress, it's helpful to understand what it is.

"Physiologically, stress is indicated by an increase in cortisol concentration," Dr. Malinowski said. "Horses can exhibit stress in a variety of ways behaviorally: by facial expression, by tension, etc."

Cortisol concentrations, measured via blood sampling, can rise quickly in stressful situations, but Dr. Malinowski's research has shown that physical activity, regardless of discipline and including racing, actually reduces a horse's response to stress:

"Physical activity works as it does for us. If I'm feeling stressed, I go for a run or a walk to take it down," she explained.

Causes of Stress

Now that we know what stress is, it's important to know what causes it.

"Irrespective of trailering, stress—whether in horses or humans—is caused by anything novel. Neither we nor horses particularly like change. In stressed horses, we see an increase in plasma cortisol concentration and an

increase in behavioral stress with tension, anxiety, agitation, etc.," Dr. Malinowski said.

Not all horses find trailering a stress-free experience, and the detrimental effects of trailering-related stress are well documented, as various studies have shown that horses new to trailering or that trailer infrequently can find travel a stressful experience.

One such study, conducted by Diana K. Clark, Ted H. Friend, Ph.D., and Gisela Dellmeier at Texas A&M University in the early 1990s, showed elevated heart rates and increased plasma cortisol concentration at various points of trailering, such as when horses were loaded, early in the trip, times centered around sudden stops, and at other points in the trip when horses lost bal-

ance during travel.

Although the study indicated that horses' heart rates generally decreased as the trip progressed and as the horses adapted, it is suggested that, when possible, horses be trailered facing away from the direction of travel, a position that has demonstrated improved ability to balance. In addition, allowing for all horses to travel with their heads in a naturally lowered position can allow for the drainage of mucus, which can aid in the prevention of respiratory illness.

Other unique trailering factors have also been examined. Another Texas A&M study, this one conducted by Dr. Friend, Shannon M. Garey, M.S., Dennis H. Sigler, Ph.D. and Luc R. Gerghman, Ph.D., attempted to examine additional factors aimed at lowering trailering-related stress. This study considered whether there are benefits to traveling in loose groups or individual stalls, and found no significant decrease in stress markers in either situation.

Finally, some research has shown that certain non-prescription dietary supplements—such as those containing magnesium, thiamine and tryptophan, as well as other combinations of ingredients—may help reduce stress in these

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Dr. Karyn Malinowski



types of unfamiliar situations. Your veterinarian may be able to help you choose the best course of action, make specific recommendations, and determine which of these are race legal until trailering becomes second nature.

However, for the seasoned campaigner, trailer-related stress is a moot point. Even if something unexpected happened during a trip, the physical activity of racing would bring the horse's stress levels back down.

While not directly related to trailering, it is fair to say that the anticipation of a race will cause a rise in cortisol concentration, but the act of racing itself soon brings this concentration back down. This rise and fall of concentration levels isn't an unhealthy one, but instead an inherent part of the fabric of a true competitor.

"You can't take the desire out of a racehorse," Dr. Malinowski said.

Minimizing and Measuring Stress

While trailering and the act of racing itself are not directly related to stress, other horse-keeping factors do contribute.

"Horses are born to be outside. Keeping a horse stalled 24/7 will cause stress," Dr. Malinowski said.

Stress without an outlet can lead to unwanted side effects, such as gastric ulcers and reduced immune response to infectious diseases or potentially vaccines.

Aside from behavioral signs that some stoic horses never exhibit, it can be difficult for a caregiver to know if their horse is experiencing stress from any source.

SOOTHING IT OUT / *Opposite:*

Research shows that whether horses travel in loose groups or individual stalls, there is no significant decrease in stress markers in either situation. **Above:** Ways to combat stress in a horse include feeding it a forage-based diet, turning it out as often as possible, and, if it gets nervous when lonely, getting it a companion, such as a goat.

"Most people do not measure plasma cortisol as we do in research," Dr. Malinowski said.

So, to make sure that your horse is as stress-free as possible, she recommends sticking to a routine, keeping them on pasture as much as possible, and, from a nutritional standpoint, feeding a forage-based diet.

Scientifically speaking, there remain other parts of the spectrum of stress that are difficult to measure. For example, it is difficult to demonstrate the direct effects of stress on performance. However, it stands to reason that prolonged stress which yields the development of gastric ulcers can lead to a horse being off its feed—and, therefore, not performing well.

The good news is that it's relatively easy for a horse to overcome the effects of short-term stress.

"Taking a horse back to a familiar environment, turning them out—even with a buddy if being alone makes them nervous—getting them a companion animal such as a goat, or even a toy ball (can make all the difference)," Dr. Malinowski said. While dependent on individual horses, most horses recover fairly quickly from even major life changes, adapting in as little as a few

days to a week.

Dr. Malinowski cites two specific examples to illustrate this point. In the 1980s, she was involved with a study on stress caused by the separation of mares and foals at weaning. Within 24 to 48 hours, the mares had recovered, and within 48 hours, the foals were also fine. She was involved with another study, specifically on young Standard-breds in early training, on how to manage stress and the physical measures of exercise. The study looked at stress response, cortisol concentration and lactate concentration in comparison to the amount of work the horses performed.

"The only time we saw a lactate increase was weekly as they worked harder and harder," she said. "The only time we saw a cortisol increase was when we changed up their routine, such as the first time they turned in the training direction and went fast or the first time they went behind the gate. But then, after a few weeks, their stress levels went right back down to normal."

While it is important to remember that longer trips include other possible stress-inducing factors, we can take at least one thing off our lengthy list of worries by paying attention to the physical signs of stress and taking steps to reduce it in inexperienced travelers. Given all the ways that horses can suffer a bout of illness or injury, we can rest easy knowing that the stress brought onto our veteran travelers by trailering on short trips from one race to another generally isn't one of them. **HB**

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