Horse Training Aid Lowers Rein Tension, Encourages Neck Flexion

The horse training aid researchers tested–made up of a system of loops and a pulley–could help keep rein tension levels at near zero with the horse's nose at the vertical.

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The system of loops and a pulley could help keep rein tension levels at near zero with the nose at the vertical, researchers found. | Photo: Courtesy Dr. Iris Veen

Training a horse to perform with a flexed neck and his head in a vertical position requires cues and reinforcement. Some riders and trainers achieve this with increased rein tension, which horses might find uncomfortable. But a new training device might help reduce the rein tension necessary to encourage this head and neck position, Dutch researchers say.

The "Concord Leader" device works through a system of loops and a pulley across the horse's head, chest, mouth, and back and is connected to the reins. When longeing, it could help keep rein tension levels at near zero with the nose at the vertical, said Iris Veen, DVM, of Utrecht University's Faculty of Veterinary Medicine.

That's likely because the loops and pulley provide for a more immediate pressure release when the horse moves into the correct position, she said.

"Draw reins and the Concord Leader both rely on the principle of negative reinforcement because the horse flexes its neck to avoid tension," she said. "But if the pressure is not released, the horse doesn't get a 'reward' for flexing its neck. The better a method employs this release of tension, the

more the horse is inclined to flex its neck. In my opinion, the Concord Leader is a more consequent negative reinforcement training method compared to draw reins."

In their study, Veen and her fellow researchers measured the rein tension of 11 Warmbloods fitted with either draw reins or the Concord Leader system at a walk. Handlers led the horses by a leadline attached to the noseband (to avoid creating more rein tension) but never pulled on the lead to get the horse to walk in a straight line six times across the arena or hard track (total distance of 150 meters, or about 500 feet).

Each horse wore each training device twice for measurement: once on a soft footing arena and once on an asphalt trot-up track. The scientists adjusted the system each time to place the horse in a flexed head and neck position with the nose at the vertical. They used a rein tension gauge for each method.

They found that the horses were more likely to experience moments of zero rein tension with the Concord Leader than with draw reins, Veen said. And overall, they found that total rein tension with the draw reins was nearly 14 times higher than with the Concord Leader.

They also noted that, compared to the soft surface, there was less likelihood of zero rein tension on the hard surface with the draw reins—possibly because horses find it more "challenging" to maintain the flexed head and neck position with the draw reins on harder ground, Veen said. However, with the Concord Leader system, there was no significant difference in rein tension between surface types.

The scientists also detected a difference in left versus right rein tension with both draw reins and the Concord Leader, maybe because of the horse's laterality, she said.

"For the handler the Concord Leader is more manageable than the fixed draw reins," Veen said. "For the purpose of the study, we tied a knot to standardize the head and neck position, but in real life the rider has some scope to release the pressure. The Concord Leader is therefore more manageable. But it also requires a certain amount of skill of the handler—mainly, the ability to 'feel' the tension and act on it."

Whether to ride in a flexed head and neck position is a choice each rider must make, she said. But if doing so, for the welfare of the horse it's best to choose a training method that keeps rein tension low.

"Our research indicates that it is unnecessary to use high auxiliary rein tension to obtain a standard flexed head and neck position," Veen said.

The study, "The use of a rein tension device to compare different training methods for neck flexion in base-level trained Warmblood horses at the walk," was published in the *Equine Veterinary*

Journal.