

How does rider awareness affect asymmetrical rein tension whilst riding?

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A comprehensive understanding of horse-human interaction is needed to facilitate good equine training, performance and welfare. Riders are often told that they must 'feel' and 'achieve contact', yet these goals are rarely objectively quantified resulting in inconsistent use of signals. Asymmetric application of rein tension can result in the horse becoming confused and consequently experiencing reduced welfare. This study aimed to determine the effect of receiving feedback on the symmetry of riders rein use. Fourteen horse-rider dyads were randomly allocated to either Control (n = 7, did not receive feedback regarding symmetry) or Experimental condition (n = 7, received symmetry feedback). All horses were fitted with a Centaur Rein Tension Gauge. Rein tension data (100 Hz) were synchronised with video (50 Hz) using a custom made solenoid and LED device. In Phase 1 all horse-rider dyads trotted (always rising or sitting depending on rider preference) down a centre line in an indoor arena for 16 strides in both directions, ten times, and did not receive any feedback on rein use symmetry. On completing Phase 1, Experimental dyads received feedback regarding the observed symmetry/asymmetry whilst Control dyads did not. All dyads completed another ten centre lines for 16 strides in both directions in trot in Phase 2. On completing Phase 2 all riders reported how they subjectively 'felt' regarding their rein tension symmetry. Left and right rein tension data were used to calculate a Laterality Index (LI) as an indicator of symmetry. There were no differences in LI between Control and Experimental groups in Phase 1 (V = 1421; P > 0.05; Control: mean LI = 1.65; Experimental: mean LI = -4.58) indicating equivalent baseline rein symmetry before the experimental phase (Phase 2) commenced. No significant differences were found for the Control group where no symmetry-related feedback was provided between Phase 1 and Phase 2 (V = 1345; P > 0.05; Phase 1: mean LI = 1.65; Phase 2: mean LI = -1.35). Similarly no significant differences were found between Phases 1 and 2 for the Experimental group where riders were provided with symmetry-related feedback prior to commencing Phase 2 (V = 1131; P > 0.05; Phase 1: mean LI = -4.58; Phase 2; mean LI = -3.20). Analysis of objectively LIs indicates that providing riders with feedback regarding their rein tension symmetry has no effect on their subsequently applied rein tension. However, subjectively riders reported that receiving feedback made them more aware of their rein tension symmetries. Understanding rein tension symmetry/asymmetry could lead to improved application of rein aids and ultimately benefit horse welfare.

Lay person message: Riders use reins to guide the horse's movement and direction. Consistency in the information given to the horse is critical to effective equine training, performance and welfare. Although riders often seek feedback on their riding from someone on the ground, in this study providing feedback on rein symmetry did not result in any observable changes in rein symmetry. However, riders did report being more aware of what they were doing with their hands after receiving feedback. Understanding rein tension symmetry could have significant effect on how riders apply their rein aids and ultimately benefit the horse's welfare.

Keywords: rein tension; symmetry; equine; equitation science; training, welfare.