AN INVESTIGATION INTO RELATIONSHIPS OF HORSE & RIDER PELVIC ASYMMETRY

*L.Browne MSc; S. Hedderly MSc; S. Charlton MSc; C. Cunliffe DC PhD
McTimoney College of Chiropractic, Kimber Road, Abingdon, Oxon, OX14 1BZ, UK

*corresponding author Tel: +44 7940 463 545 E: laura@lbmctimoneytherapy.co.uk

OBJECTIVE: Assess single horse & rider partnerships for the occurrence and relationships of misalignments throughout the neck, spine & pelvis with focus on pelvis asymmetries.

OUTCOME: Positive basis for further research into casual effect relationships of horse and rider asymmetries.

INTRODUCTION

- Asymmetry of the horse & rider partnership is a challenging & complex area
- Quantifiable scientific research into the occurrence of horse & rider asymmetry & potential relationships is limited
- Knowledge of any relationships could be useful for managing subtle gait irregularities, poor performance and training regimes

METHODOLOGY

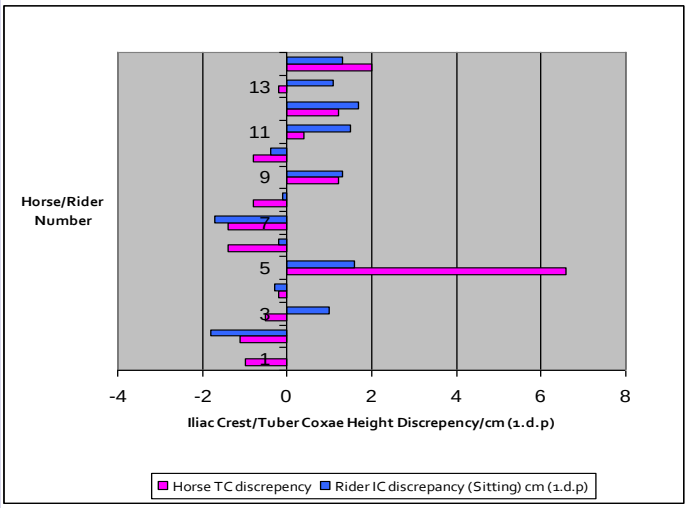
- 14 single horse/rider pairs (minimum 6 month partnership), on same yard with same daily routine.
- Horse & rider combinations were assessed on the same day for misalignments of the neck, spine & pelvis by a qualified animal (McTimoney) practitioner.
- Rider iliac crest (IC) height discrepancy was measured using a PALM palpation meter both sitting and standing. Triplicate measurements were taken for rider dorsal iliac crest distance and degree tilt.
- Horse tuber coxae (TC) height (left & right) were measured in triplicate using a plumb line. Difference between two means gave a measurement for pelvis rotation.

  Value < 0 = left rotation
  Value > 0 = right rotation
  Value = 0 indicates no rotation
- Statistical analyses: Coefficient of Kurtosis, Pearson's Product Moment correlation, Students T-test, Chi-square.

RESULTS

Pelvis asymmetry occurred in…

93% horse/rider combinations
85% occurred in the same direction
15% occurred in the opposite direction



- Riders: mean IC height discrepancy, standing was 0.89 ± 0.64cm and sitting, 1.00 ± 0.66cm. There was no significant diff between sitting and standing measures.
- Horses: mean TC height discrepancy was 1.3 ± 1.6cm
- There was a significant positive correlation between horse TC and rider IC height discrepancies. 40% variance in rider pelvis asymmetry due to horse pelvis asymmetry (R^2=0.4, F =8.24, P=0.014)
- There were no significant trends of pelvis asymmetry to misalignments of the neck & spine.

CONCLUSIONS

- Positive evidence of a relationship between the direction of horse pelvic rotation and rider pelvic tilt.
- The causal effect relationship is indeterminate
- Knowledge of a significant relationship could have fundamental implications for physical therapy treatment of horse & rider and awareness of musculoskeletal asymmetry.