

## **An investigation into the effects of McTimoney chiropractic treatment on axial rotation of the equine pelvis**

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### **Summary:**

The equine pelvis is not a rigid structure and during most movements of the sacroiliac joint, symmetric pelvic deformation occurs. Asymmetry between the left-right tuber coxae (L-R TC) height may or can indicate restriction in the range of rotation of the pelvis around the axis. The purpose of this study was to quantitatively assess the effect of McTimoney chiropractic technique on the axial rotation of the pelvis, aiming to reduce static pelvic asymmetry. Fourteen sound riding club horses were used (4 mares, 10 geldings; mean age=12.6 years; mean height=165 cm). Whilst standing square, the level height of the dorsal aspect of L-R TC to the floor was measured (pilot study yielded  $p < 0.0001$  intra-assessor repeatability). Measurements were taken immediately before and after a single McTimoney treatment session, and repeated after 2 days, 10 days and 21 days. The McTimoney treatments were conducted by the same practitioner, and included an appropriate left or right dorsal rotation adjustment on the ventral side of the pelvis. A repeated measures ANOVA yielded a significant reduction ( $p < 0.001$ ) in L-R TC height difference throughout the 3 week assessment period. Analysis of mean L-R TC height differences compared to pre-treatment measurement reveals: Pretreatment=1.34±0.18 cm; immediately post-treatment= 0.32±0.06 cm ( $p < 0.001$ ); 2 days post-treatment= 0.55±0.09 cm ( $p < 0.01$ ); 10 days post-treatment= 0.76±0.12 cm ( $p > 0.05$ ) and 21 days post-treatment= 0.46±0.11 cm ( $p < 0.05$ ). McTimoney treatment reduced the difference between the L-R TC heights in sound horses. The pelvic axial rotation adjustment improved pelvic symmetry for at least 3 weeks. This study provides objective evidence for McTimoney treatment in improving postural pelvic asymmetry in sound horses. However further investigation is warranted in the effect of treatment on symmetry of the pelvis during movement and the impact on performance.

**Lay Persons Message:** Asymmetry in the pelvis is often noted in riding horses. This study demonstrated that postural pelvic asymmetry can be improved with McTimoney chiropractic treatment for at least a 3 week period. With increased postural symmetry of the pelvis, movement and muscle development will be potentially more symmetrical, improving performance.

**Keywords:** McTimoney, Chiropractic, pelvis asymmetry, equine.