An investigation into the effects of McTimoney chiropractic treatment on the stride parameters of the horse during trot

S. Trott, MSc MPhil; T. Carey PhD & C. Cunliffe, DC PhD
McTimoney College of Chiropractic, Kimber Road, Abingdon, Oxon OX14 1BZ, UK

*Corresponding author. Tel: +44 7951 662 442 *E-mail address*: sally_trott@hotmail.co.uk

1. Key Points

- Aim: to assess the effect of a McTimoney treatment on stride length, stride velocity and stance duration during trot, 2 days following treatment.
- Outcome: objective evidence for McTimoney treatment in significantly effecting stride parameters 2 days post treatment.

2. Background

Anecdotally, the benefits of McTimoney treatment include improvements in the range of movement for the performance horse and those in rehabilitative care.

The purpose of this study was to objectively assess the impact of McTimoney treatment using stride parameters in trot as a measurable outcome.

3. Methodology

17 clinically sound college horses were randomised into treatment (N=12, mean age = 11 years, mean height 160.6 cm) and control (N=5, mean age = 10 years, mean height 160.5 cm) groups.

Horses were trotted in hand at self-selected speed (by experienced handlers, blinded to the study) immediately before and two days following McTimoney treatment.

Data was obtained using 2D gait video analysis software. Average stride velocity (SV), stride length (SL) and stance duration (SD) were calculated from 4-6 left and right trot strides per horse.

Horses in the treatment group received routine McTimoney treatment whilst the control horses remained in their stables. The treatment and control sessions were conducted following their usual ridden exercise regime.

Post care exercise for all horses:
Day 1: 3 hours paddock turnout
Day2: 20 minutes horse walker exercise prior to reassessment.

4. Results

Prior to treatment, student T tests revealed no significant differences ($p>0.05$) between the population.

There were significant increases between pre-treatment and post-treatment comparative values (paired t test) for in SL (Figure 1a) and SV (Figure 1b) for the treatment group ($p<0.01$) and SD (Figure 1b) for the control group ($p<0.05$).

Figure 1a:

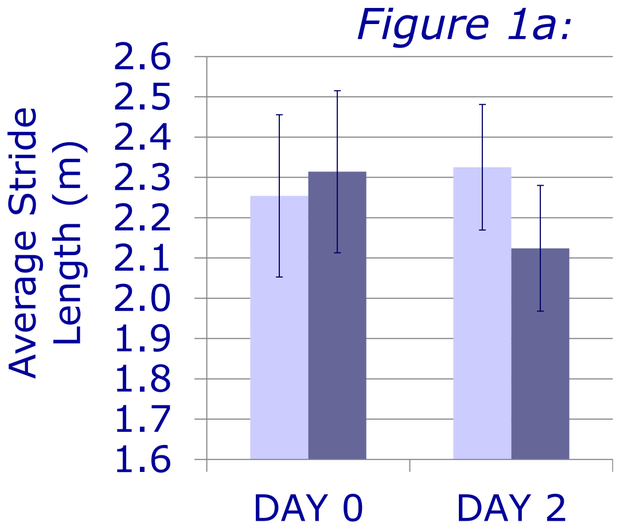

Figure 1b:

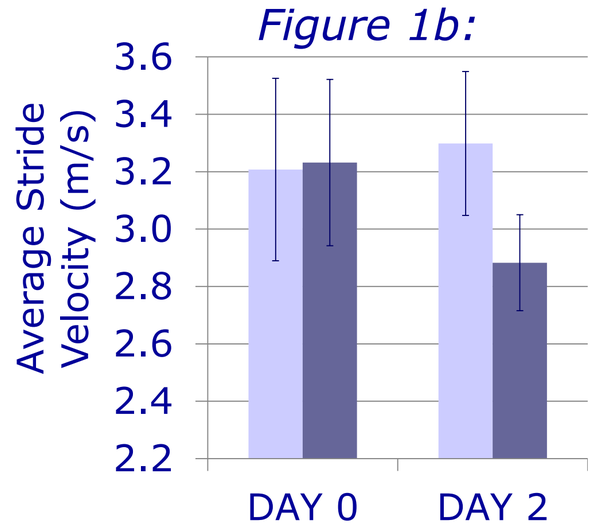

Figure 1c:

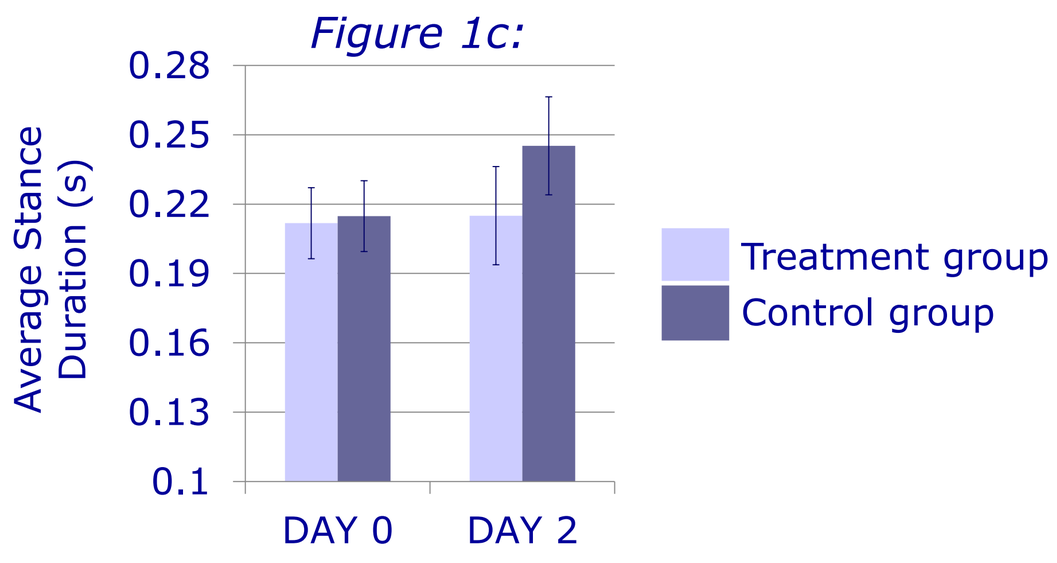

Figure 1a-c: mean graphs for SV(m/s), SL (m) and SD (s) for the control and treatment groups, for the pre-treatment (day 0) and post treatment (day 2) assessment sessions.

5. Conclusion

- The differences in stride length, stride velocity, and stance duration two days following McTimoney chiropractic treatment provides some evidence for the short term impact of treatment.
- This could have an implication for those horses in reduced exercise / box rest with McTimoney treatment being a useful tool in maintaining or improving stride parameters (reducing restrictions in range of movement) as an indicator of residual stiffness following 2 days reduced exercise regime.
- Further research is required on locomotor function following a treatment regime to fully understand the impact of McTimoney treatment on performance.