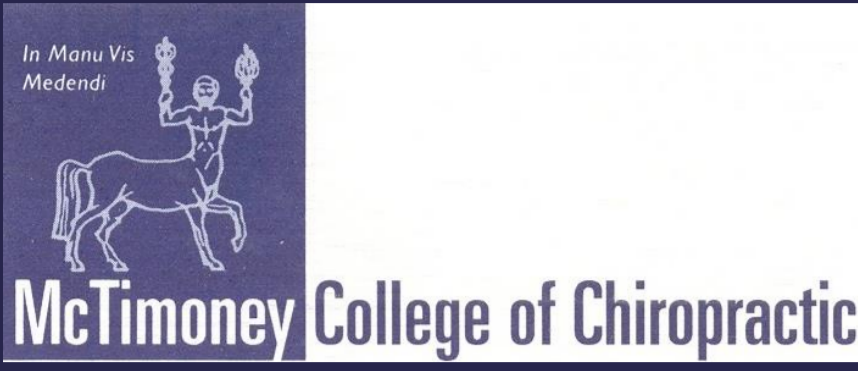




The effect of McTimoney chiropractic treatment on equine back dimensions



*Dalton, J., Ellis, J., Routledge, N., Hunnisett, A., Cunliffe, C.
McTimoney College of Chiropractic, Kimber Road, Abingdon, Oxon, OX14 1BZ, UK

INTRODUCTION

Studies have identified the extent of changes in dimension of the thoracolumbar region of the horse's back after a thirty minute period of exercise and over the course of one year (Greve *et al.*, 2015; Greve & Dyson, 2015). There is, however, no information on the influence of manual therapy on changes in thoracolumbar dimensions of the equine back. The aim of this study was to determine whether a single McTimoney chiropractic treatment influences the equine back width dimensions that are typically measured in the assessment of saddle fit.

METHODOLOGY

- A controlled, paired, randomised, double-blinded study using 12 riding horses (geldings=4; mares=8).
- Horses were matched into pairs by management regime, degree of saddle fit behind the shoulder, age and height. Each pair was randomly allocated into the treatment or control group.
- The treatment group (n=6) received a single manual chiropractic treatment following palpation. The control group received palpation only.
- Triplicate thoracolumbar dimensions were measured by using a flexicurve ruler at thoracic vertebrae T8, T13, T18 and three fingers behind the scapulae (3f), the day before treatment (Pre-Tx), immediately post-treatment (Post-Tx) and three consecutive days (D1, D2, D3) after treatment.
- Paraspinal trunk width was measured at set distances lateroventral to the dorsal midline (3.5cm, 7cm and 10.5cm at T8 and 3f; 3cm and 6cm at T13 and T18).
- Repeated measures ANOVA and post-hoc tests (Tukey's and LSD) were used to evaluate differences between pre- and post-treatment measurements.

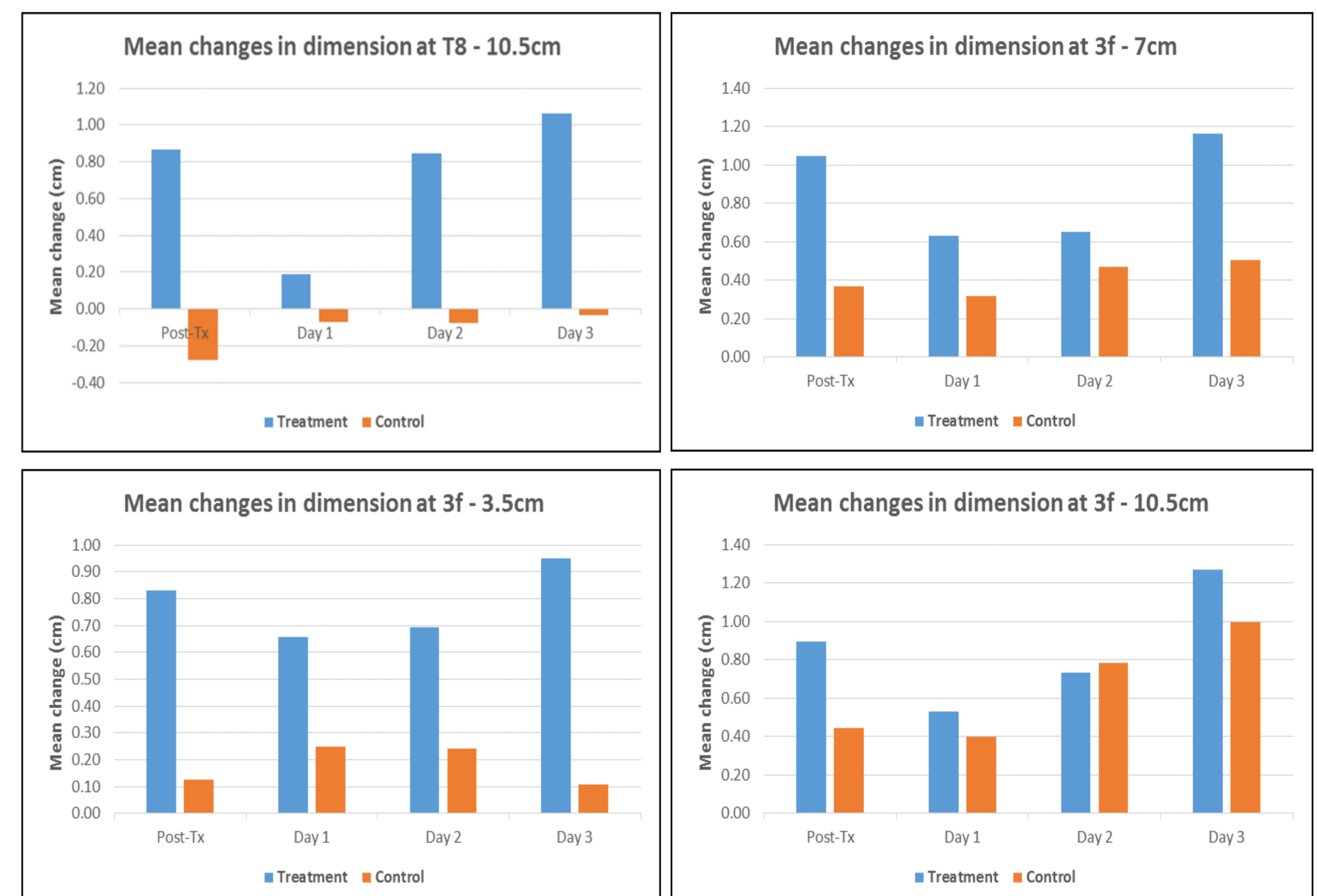
RESULTS

- In the treatment group significant ($p < 0.05$) positive mean changes in width dimensions occurred at:
 - T8 10.5cm ($p = 0.049$)
 - 3f 3.5cm ($p = 0.016$), 7cm ($p = 0.009$), 10.5cm ($p = 0.006$)
- Peak changes occurred immediately post-treatment & on Day 3. * = significance at $p < 0.05$ ** = significance at $p < 0.01$

Anatomical site	T8			3f		
	3.5cm	7cm	10.5cm	3.5cm	7cm	10.5cm
Pre-Tx - Post-Tx (cm)	0.81*	0.86*	0.87	0.83**	1.05*	0.89*
Pre-Tx - Day 3 (cm)	0.76	0.96*	1.06*	0.95*	1.61*	1.27*

- There were no significant ($p > 0.05$) changes at any measurement location in the control group.

Mean changes at T8 and 3f



DISCUSSION & CONCLUSIONS

- McTimoney chiropractic treatment can have an effect on measured equine back dimensions immediately post-treatment and up to three days following treatment.
- This may have implications on saddle-fit assessment during this time period.
- Further research is recommended with larger cohorts and to determine longevity of changes.

APPLICATION TO INDUSTRY

The study increases the evidence base for the factors influencing changes in equine back dimensions, and the effects of McTimoney chiropractic treatment. It also has implications for the assessment of saddle fit in ridden horses.

REFERENCES

- Greve, L., Murray, R., Dyson, S. (2015). Subjective analysis of exercise-induced changes in back dimensions of the horse: The influence of saddle-fit, rider skill and work-quality. *The Veterinary Journal*, 206 pp. 39 – 46.
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