



A Preliminary Study of the Effect of Manual Chiropractic Treatment on Laterality of Mechanical Nociceptive Thresholds (MNTs) in Thoroughbred Racehorses

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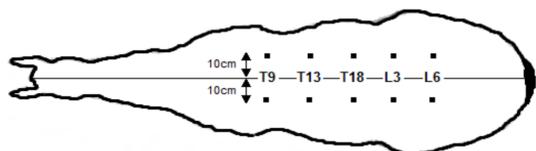
INTRODUCTION

Spinal manipulation using chiropractic techniques aims to improve joint function and the symmetry balance of the musculoskeletal system. Research into effects of chiropractic techniques on horses is limited. Pressure algometry is an established measure of mechanical nociceptive thresholds (MNTs) to quantify musculoskeletal responses (Haussler and Erb, 2003).

AIM: To assess and compare the influence of manual chiropractic on left and right side MNT measures of the thoracolumbar musculature for thoroughbred racehorses in training.

METHODOLOGY

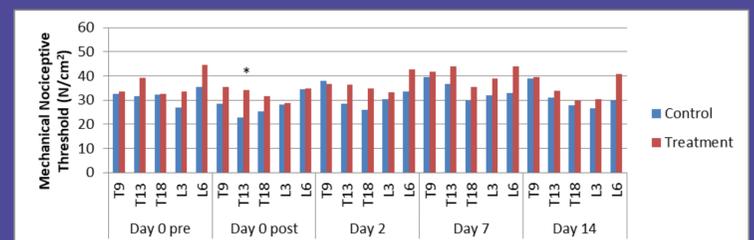
- Thoroughbred point to point racehorses (n=16) from the same yard, in similar training were randomly assigned into 2 equal groups (n=8).
- Treatment group received manual chiropractic by an experienced McTimoney animal practitioner.
- Control group received no intervention.
- Triplicate MNTs were measured 10cm lateral to the dorsal midline at five bilateral anatomical sites (T9, T13, T18, L3, L6) along the thoracic and lumbar musculature using a digital pressure algometer by a single examiner blinded to the groups.



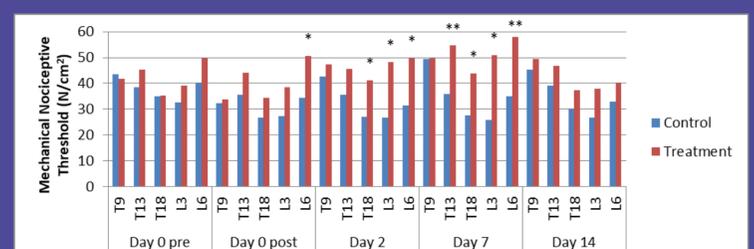
- Measurements were taken before treatment, 2hr post and at 2, 7 and 14 days post treatment. Repeatability of MNT measurement was evaluated.
- Komolgorov-Smirnov test assessed data normality. Paired T-tests compared laterality.

RESULTS

- For left side only there was no significant difference in MNTs between control and treatment groups except post Tx @ T13 (p=0.04)*.



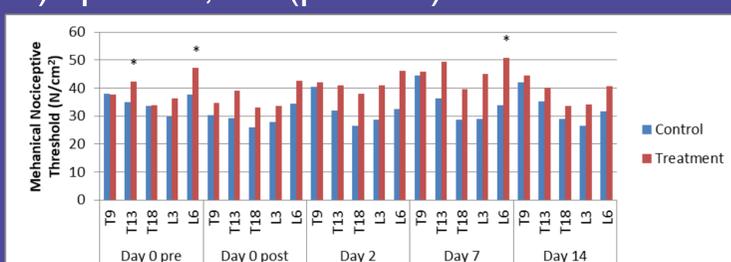
- For right side only, significant differences between treatment and control MNTs occurred at T13, T18, L3, L6 from post treatment to d7.



* significant difference (P<0.05). ** significant difference (P<0.001).

RESULTS

- There were no significant left-right differences in 38 of 50 (76%) measurement sites.
- Combining left/right MNT datasets, significant difference between groups only occurred at T13, L6 (p<0.05)* pre-Tx; L6 (p<0.05)* d7.



CONCLUSIONS

- When assessing chiropractic effects on back musculature, left and right MNT measures should be assessed independently and important to consider.
- Further research is warranted with larger cohorts, repeatability and over a longer period

REFERENCES

Haussler, K.K. & Erb, H.N. (2003) Pressure algometry: objective assessment of back pain and effects of chiropractic treatment. American Association of Equine Practitioners. 49: 66-70.

OUTCOME: Manual chiropractic treatment reduces sensitivity to pain along the thoracic and lumbar musculature with independent laterality effects at different sites.