

The effect of McTimoney chiropractic treatment on pressure measurements beneath the saddle

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Summary:

Implications A reduction in mean pressure beneath the saddle following McTimoney chiropractic treatment has implications for saddle fit, and the sequence of back treatment and saddle fitting.

Introduction Back problems in horses are recognised as an important factor in performance impairment. Saddle fit is considered a key factor in the aetiology of back problems (Harman 1995; de Cocq et al 2006) and has been shown to affect the forces acting on the horse's back (Meschan et al 2007). An integrative approach to solving back pain increasingly involves complementary therapies. Quantifiable scientific research of relationships between effects of McTimoney chiropractic treatment and saddle pressure would be useful.

Material and methods Twelve horses of varying breeds and ages (age 4-16 years; 8 geldings and 4 mares; height 15.1-16.3hh) were ridden in their own saddles by the same rider (61kg) along a straight 30m track. The treatment group (n=6) received McTimoney chiropractic treatment; the control group (n=6) received an assessment but no treatment intervention. Mean overall pressure (MOP) and mean peak pressure (MPP) were measured at walk, rising trot and sitting trot using a TekScan CONFORMat pressure sensing system. Readings were taken before and one day after treatment/no intervention. Pressure differentials (KPa) were calculated by comparing pre- and post pressure values. Statistical analysis: Levene's test, Repeated Measures General Linear Model, Students t-test.

Results McTimoney chiropractic treatment significantly reduced MOP ($P<0.001$) and MPP ($P<0.001$) at all gaits. Differentials in MOP were greatest at rising trot(15%), sitting trot(12.5%) and then walk(9.5%). Differentials in MPP were greatest at rising trot(11.4%), sitting trot(11.2%) then walk(8%). There was no significant difference in pre/post MOP ($P=0.183$) or MPP ($P=0.792$) for the control group. Pressure differentials were not affected by changing gait.

Table 1 Pre/post MOP(KPa) for treatment and control groups with differential, percentage change and standard deviation

	Treatment group			Control group		
	Walk	R.trot (av)	S.trot (av)	Walk	R.trot (av)	S.trot (av)
Pre	14.75	12.18	12.26	12.92	12.43	12.53
Post	13.35	10.31	10.73	13.88	11.76	11.82
Differential	1.40	1.87	1.53	-0.97	0.66	0.72
% change	9.5	15.0	12.5	7.5	5.3	5.7
St. Dev.	0.99	1.32	1.08	0.68	0.47	0.51

R.trot= rising trot, S.trot = sitting trot

Conclusion The results provide positive evidence that McTimoney chiropractic treatment has an effect on the equine back and reduces mean pressure values beneath a saddle up to one day following treatment. Further research is required to understand the longer term effect of chiropractic treatment on saddle pressure and the effect on saddle fit. Further research could ascertain the appropriate sequence of back treatment and saddle fitting.

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References

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