Preliminary field study on saddle pressure distribution in healthy horses

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EAAP Conference 2014 Copenhagen
Session 17
Introduction

75% of horses are ridden with an ill-fitting saddle

- Back pain
- Poor performance
- Lameness
- Behaviour problems

Primary causes:

- Asymmetry of the saddle
- Cushions that are too hard
- Caudally located centre of balance
Objectives
Objectives of the study

- Evaluate how saddle pressure is distributed in a normal horse population and whether or not the pressure pad used is suitable to give reliable information on saddle fit.

- Influence of breed, type of saddle, type of saddle pad, discipline, withers- and back conformation on saddle pressure distribution was investigated.
Materials and Methods
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Sample: 40 Horses (19 Mares, 21 Geldings)
Age: 5 – 22 Years (Mean 11.5 years)
Breed: Warmblood, XX, Arabian, Small Horses, Heavy Breeds
Discipline: Leisure, Show Jumping, Dressage
Measurement: Straight line at rest, walk and trot (Satteltester®)
Back categories: Front-Back, Left-Right, Spinal
Statistical analysis: Boxplots, One-way ANOVA
- **Increase** of the pressure with the gait (Latif et al. 2010)
- Higher values in front than in the lumbar region (Nyikos et al. 2005)
- 62-65% in front can be seen as normal
- **Maximum value** «front» up to 85% and «back» up to 65%
- Close distribution around 50% (normal range)
- Deviation of 55%
Spinal pressure **diminish** with the gait

**No pressure** (0%) on the spine

Mean of the study is at 11.5%
Results II

Influence of the factors
Influence of the factors

**Breed**
- Heavy breeds ↔ Warmblood

**Back confirmation**
- Convex ↔ Concave
  (Harman 2004, Nyikos 2010)

**Saddle pad**
- Normal cloth pad ↔ Alternative pads (gel pad, foam mat, yoga mat)
  (Harman et al. 2004)

**Saddle type**
- Western ↔ Dressage, jumping, VSD
  (Cockerham et al. 2010)
- Tree less saddle ↔ Dressage, jumping, VSD
  (Belock et al. 2010, Latif et al. 2010)
Conclusion
Conclusion

Study provides **preliminary** data recorded in the field

- interpretation

Small part of a **larger evaluation**

- interaction between saddle, horse and rider

Future studies should include larger numbers of horses, asses repeatability and the influence of the rider
Questions

- Tree less saddle
- Horse with back problems
- Horse with alternative saddle pad
Fergus **BY JEAN ABERNETHY**

Why did you buck me off, Fergus!?

Sorry, Kid, but something was irritating my back.

Really? What was it?

You!