STRÖMSHOLM

IS IT POSSIBLE TO FINGERPRINT A RIDER'S SEAT?

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SLU

START

There is an interest in evaluating a rider's seat from several points of view; sport, teaching and horse's health.

THE Q?

Is it possible to characterize ("fingerprint") a rider's seat based on variables from saddle pressure measurements?

AIM

If so, that would be an important first step in order to evaluate if saddle pressure measurements can be used to objectively quantify the quality of a rider's seat.

MATERIAL AND METHODS

RIDERS & HORSES

Three female riders M-dressage;
E 54 kg, R 59 kg, S 66 kg.
Six SWB horses
height 1.67 ± 0.05 m
Saddle pressure mat
Pliance-X System (Novel GmbH, Germany).

MEASUREMENTS

Measurements ≥10-15 strides straight line on both reins in sitting trot, rising trot and sitting canter.

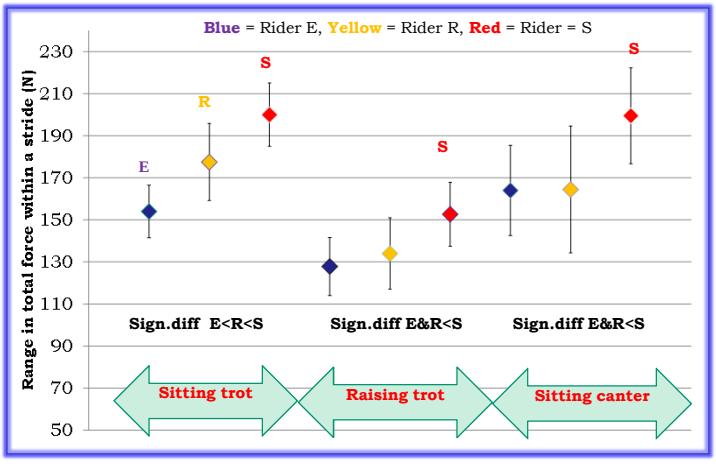
The studied variables:

- speed (m/s) & stride duration (s),
- mean total force (N) and range of fluctuation of the total force (N),
- location and range of centre of pressure in longitudinal direction and transversal direction

DATA ANALYSES

- Pressure raw data processed in Matlab
- Statistical analyses in SigmaStat: ANOVA for RM and when appropriate Holm-Sidak post-hoc test.
- The data was not normalized for rider's weight; however there was no significant difference in total force between riders.

RESULTS



Centre of pressure (cm)
Sitting trot:
Transversal range S 5.2 vs E 3.0, p=0.021.
Rising trot:
Longitudinal location: R 26.1 vs S 25.4 p=0.034.
Longitudinal range : R 12.9 vs S 15.4 p=0.004.

CONCLUSION

These preliminary results are promising for fingerprinting a rider's seat.

Further studies will focus on comparing these data with data from less experienced riders in order to establish how the rider's variables improve with training and experience.

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