

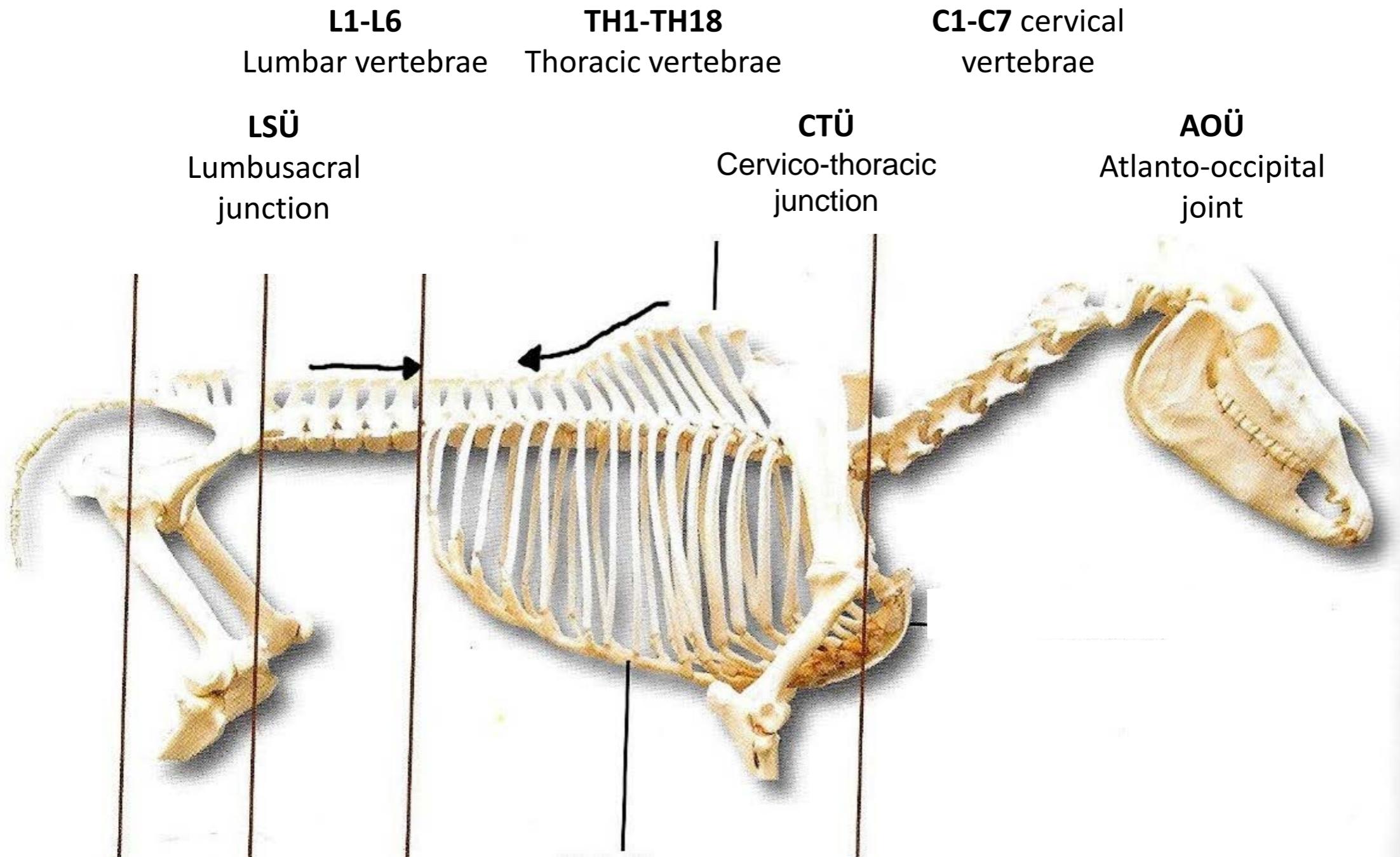
JUDITH BEIER

# The influence of different riding styles on vertebral blockages of horses

4th meeting of the International Network Equine Science, 23/10/2018

# 1. Introduction

- Does an influence of the riding styles dressage, showjumping, western, riding in the area, leisure riding and groundwork on vertebral blockages of horses exists?
- Does an influence of the combination of these riding styles on vertebral blockages exists?



Vertebral column of a horse (FRITZ, 2011)

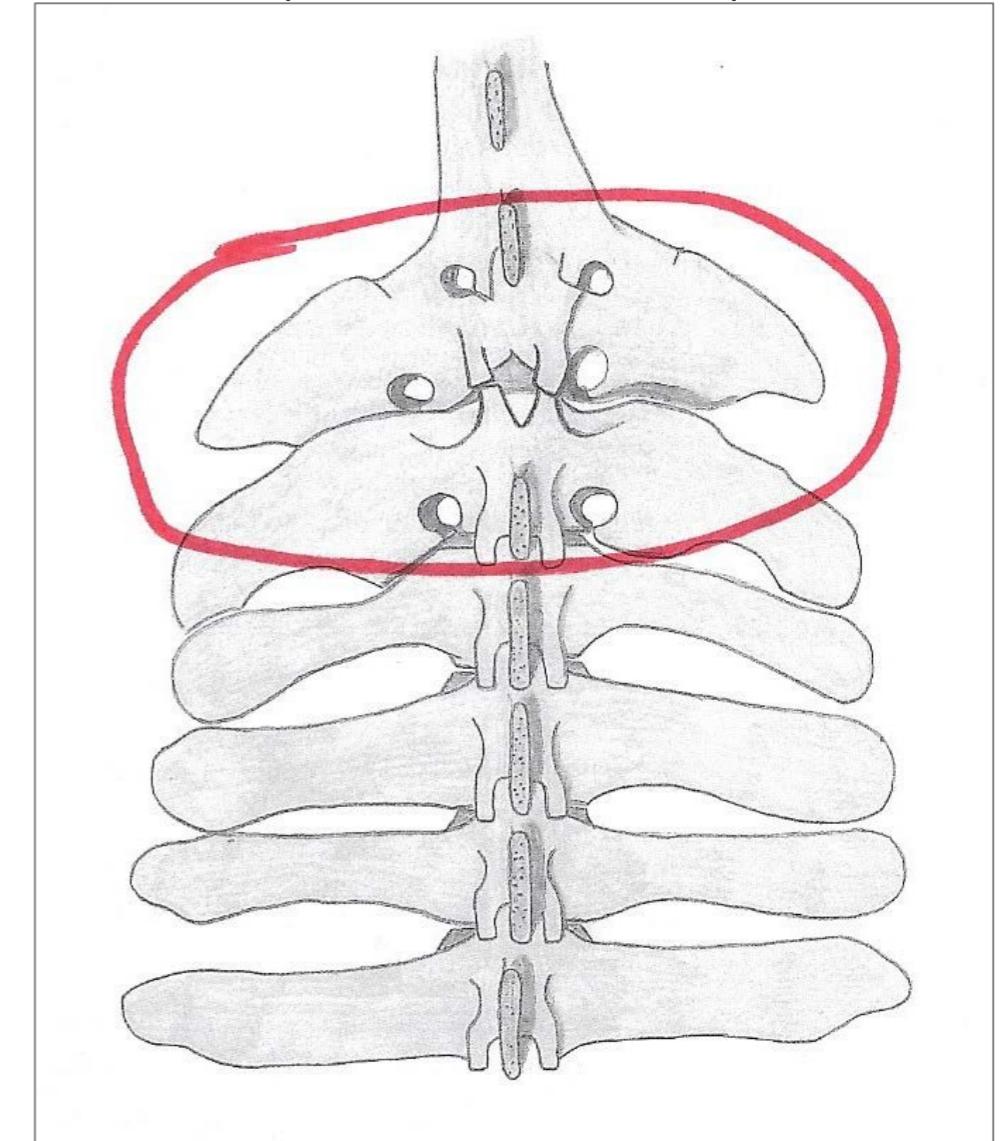
## Osteopathy

- Diseases are related to an imbalance of muscles, ligaments, bones and joints
- Osteopaths uses techniques to activate the self-recovery

## Vertebral blockage

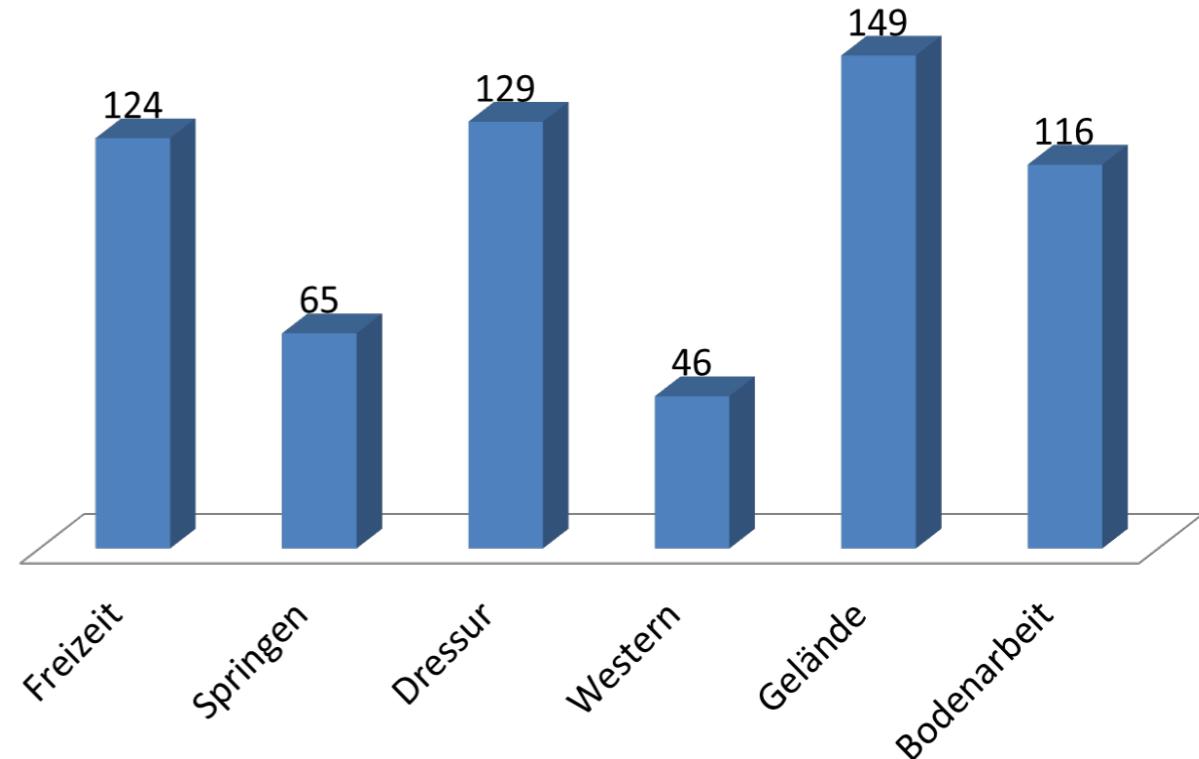
- Reversible dyskinesia of a joint induced by muscular imbalances
- In contrast to a vertebral blockade which is irreversible
- Genesis mostly caused by permanent physiological distress

### Blockage of lumbosacral junction (LANGEN et al., 2004)



## 2. Methods

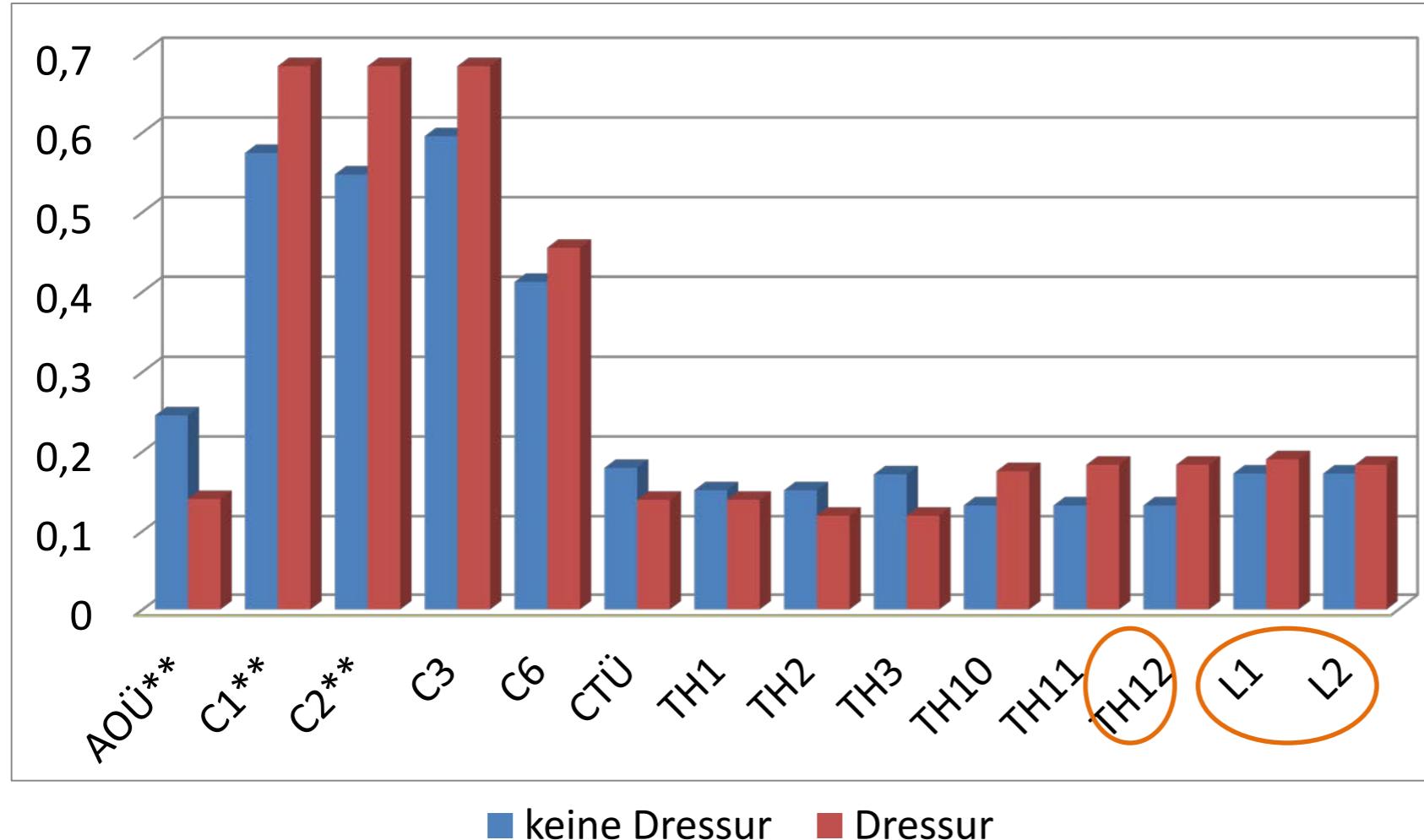
- 289 anamnesis questionnaires of a professionally mobile osteopath for horses
  - Test of muscle tension, mobility and position of vertebrae
- Two-tailed Fisher's exakt test,  $p<0.1$
- Two parts of the study:
  1. Influence of a single riding style, group size  $n>45$
  2. Influence of the combination of riding styles, in some cases  $n<5$



Absolute frequency of the number of horses in the different riding styles

## 3. Results and discussion

### 3.1. Dressage

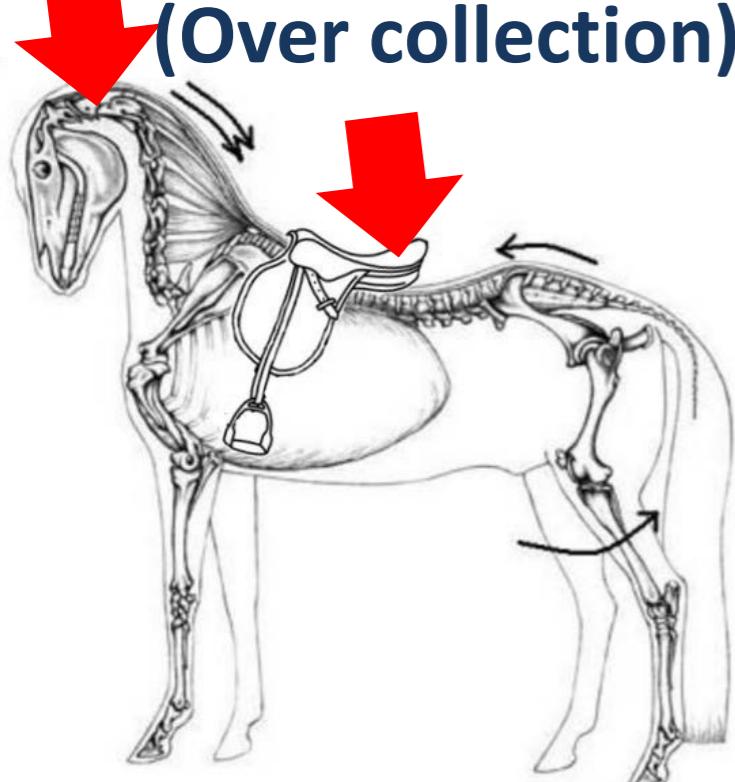


Percentage of vertebral blockages of (non-/)  
dressage horses  
(\*p<0,1, \*\*p<0,05)

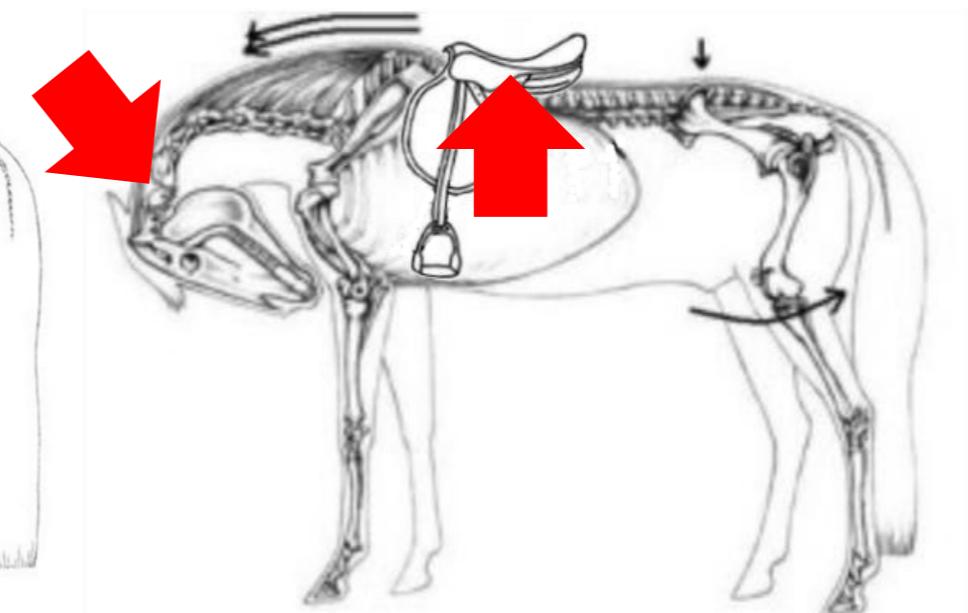
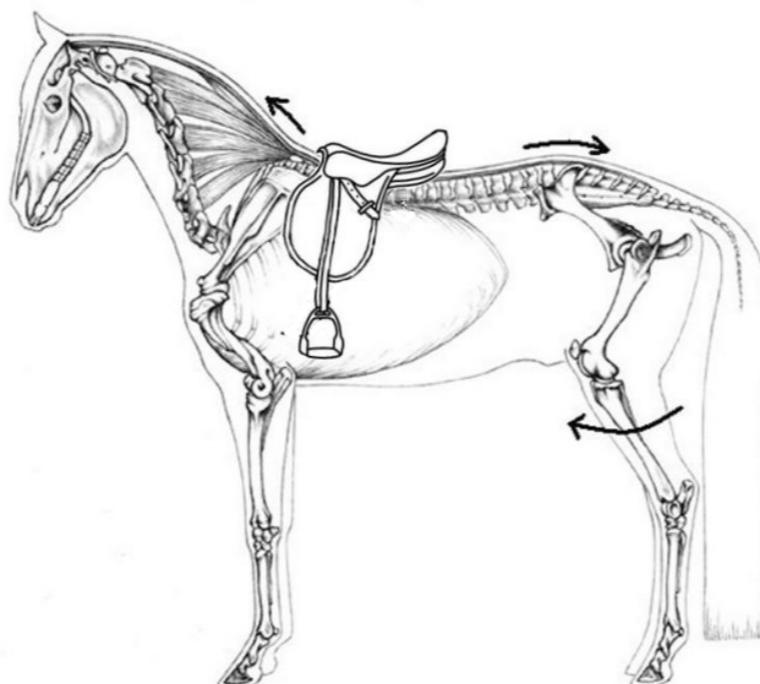
Significantly more vertebral blockages seen in pure dressage horses:  
C1\*\*, C2\*\*, C6\*, TH12\*, L1\*, L2\*

## Common horse riding mistakes

Absolute Elevation  
(Over collection)



LDR (Curled Neck,  
„Rollkur“)



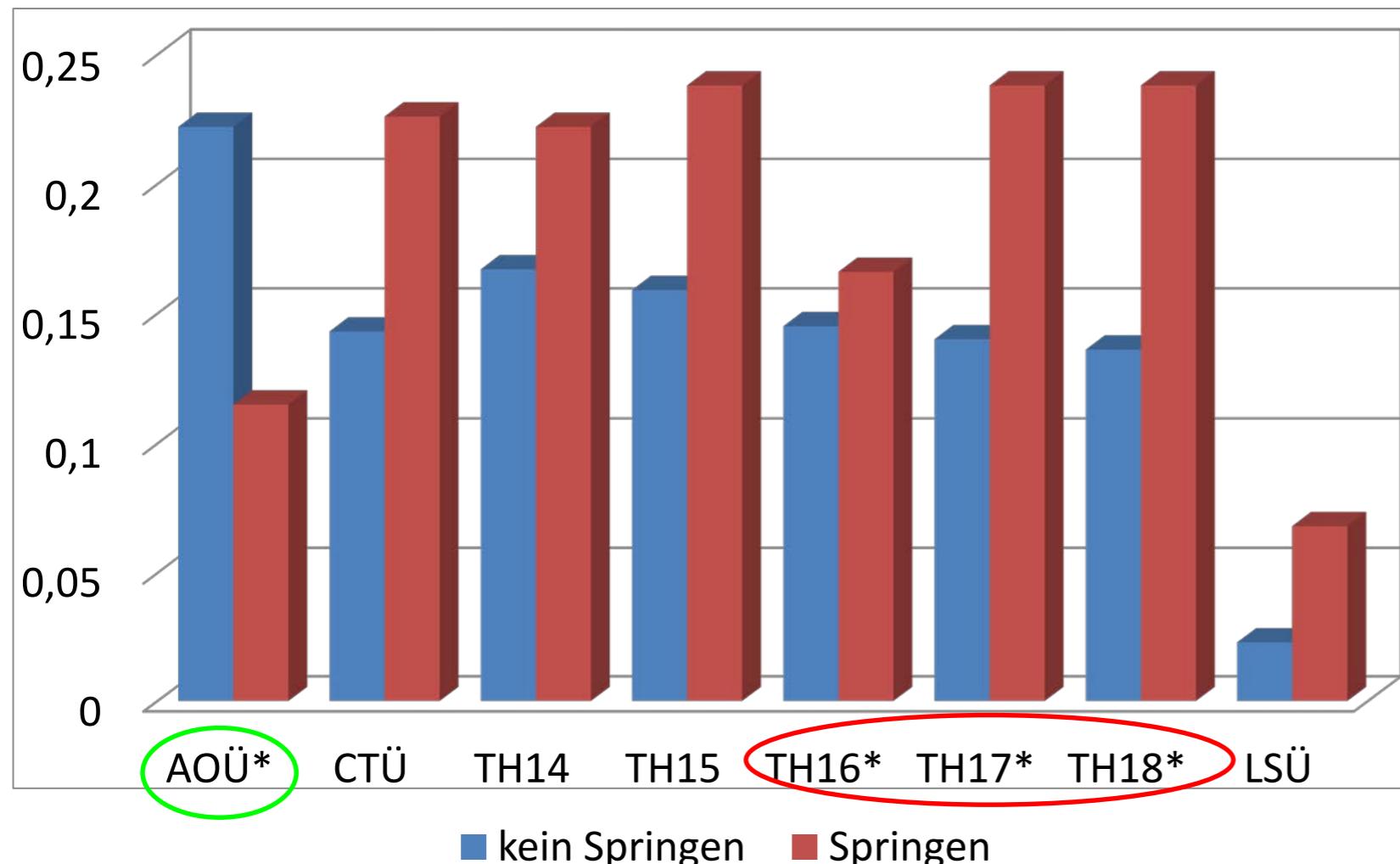
HEUSCHMANN (2015) redesigned by Sarah Müller



„Correct riding is enough!“\*

\*Paul Stecken

## 3.2. Showjumping



Percentage of  
vertebral blockages  
of (non-/ ) jumping  
horses (\* $p<0,1$ )

## Common horse riding mistake: Sitting behind the movement of the horse

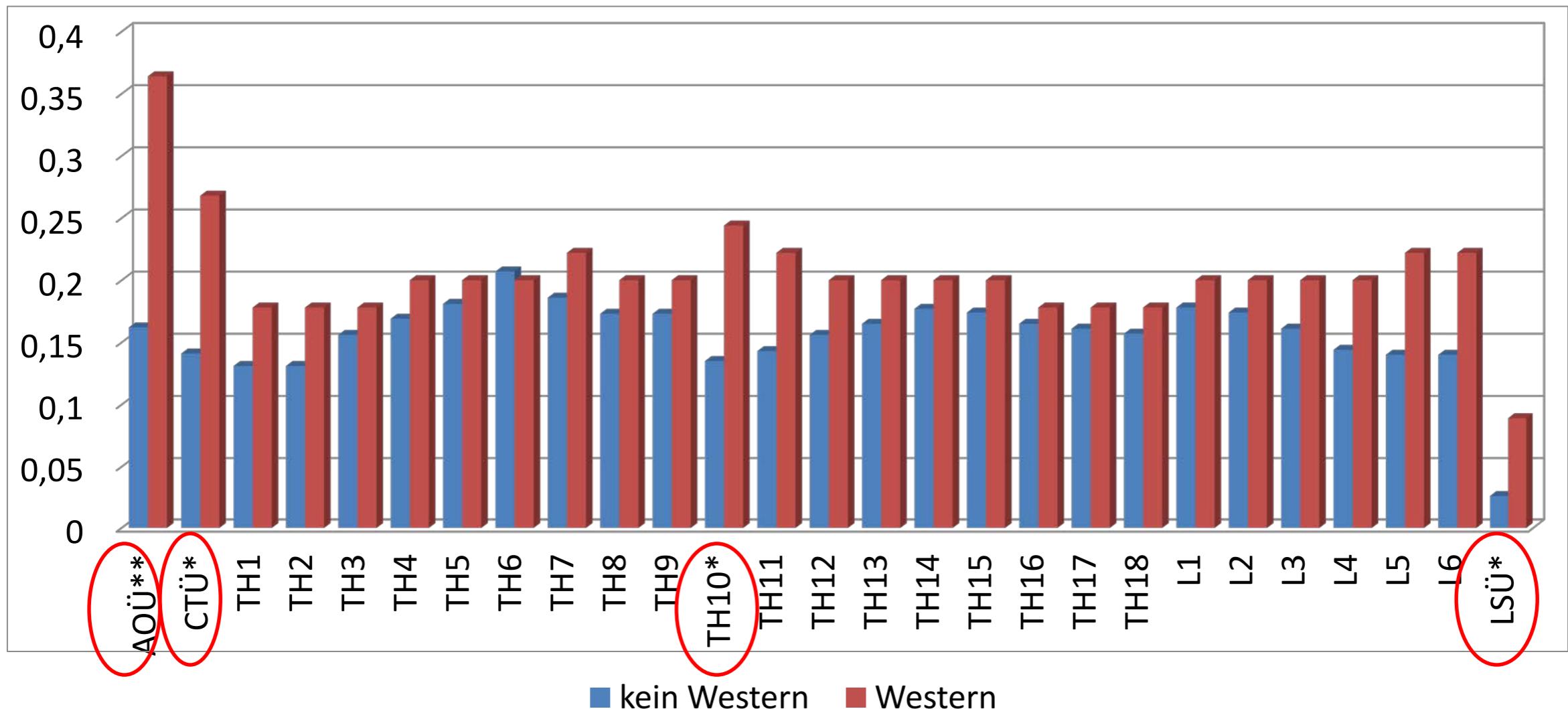




„Correct riding is enough!“

### 3.3. Western

Percentage of vertebral blockages of (non-/ western horses (\* $p<0,1$ ; \*\* $p<0,05$ )



## Common horse riding mistake: Riding with the head in a hanging position



### 3. Results and Discussion



„Correct riding is enough!“

## Common horse riding mistake:

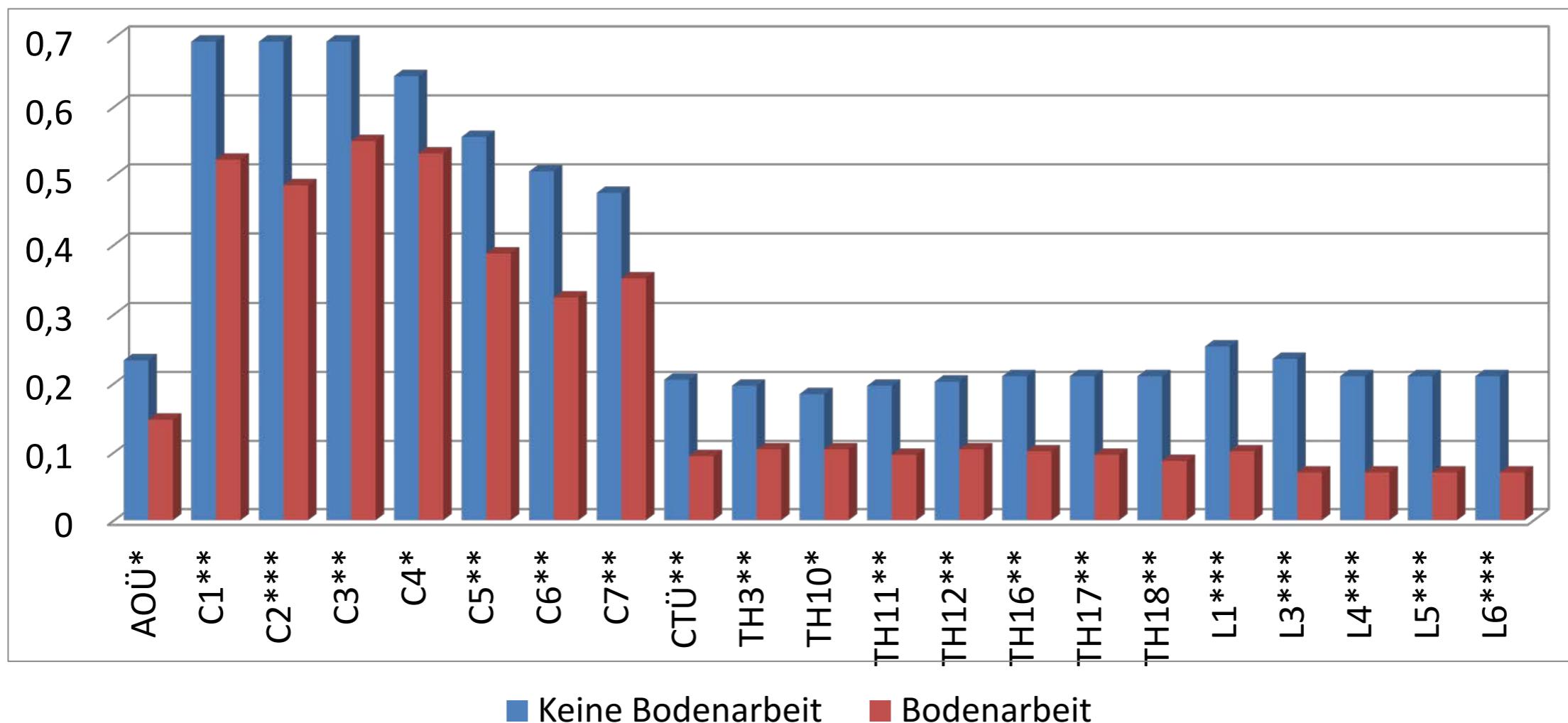




„Correct riding is enough!“

## 3.4. Groundwork

Percentage of vertebral blockages of (non-/ ) groundwork horses (\* $p<0,1$ ; \*\* $p<0,05$ , \*\*\* $p<0,001$ )



## Gymnastic Groundwork on the lunge



- The rider directly sees the movements of the horse and can help the horse to find its balance
- Horse learns to supple and straighten its body
- Muscle development without the weight of the rider

➤ Prevention of permanent physiological distress

## 3.5. Dressage and groundwork

- Significantly less vertebral blockages at cervical and thoracic spine
- Establishment of aids you need for riding in the groundwork
- Muscle development without adding the weight of the rider
- Recommendation to prevent blockages:
  - **Firstly, start and rehabilitate with groundwork**
  - **Varied training disciplines attended with a good trainer**



## 3.6. Need for research

### Tighter definition of the riding styles:

- Dressage style of FEI/ academic/...
- Height of the obstacles
- Western Horsemanship/Reining/Pleasure/Cutting/Trail/...
- Groundwork in the form of lunge the horse, free jumping, going for a walk, in hand working

### Tighter definition of training:

- Frequency
- Intensity
- Niveau
- Methods
- Focus

# Thank you for your attention!



Angaben in %	AOÜ	C1	C2	C3	C4	C5	C6	C7	CTÜ
Nicht gearbeitet	23,6	60,0	58,2	63,6	60,0	52,7	43,6	41,8	17,6
<b>reines Springpferd</b>	14,3	71,4	71,4	64,3	57,1	57,1	57,1	57,1	18,2
reines Dressurpferd	16,7	83,8**	86,5**	75,7	75,7	62,2	62,2*	54,1	8,8
<b>Dressur, Springen</b>	12,9*	74,2	74,2	77,4	67,7	54,8	48,4	38,7	29,6*
reines Westernpferd	58,8**	58,8	58,8	64,7	52,9	52,9	47,1	58,8	41,2**
<b>Western, Dressur</b>	33,3	66,7	66,7	66,7	66,7	50,0	50,0	50,0	16,7
reines Bodenarbeitspferd	16,3	52,3*	52,3*	56,8	63,6	47,7	38,6	43,2	10,3
<b>Bodenarbeit, Springen</b>	0,0	50,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0
Bodenarbeit, Dressur	11,8*	52,9	52,9	61,8	47,1*	38,2*	32,4*	29,4**	6,9
<b>Bodenarbeit, Dressur, Springen</b>	9,1	58,3	41,7	41,7	41,7	25,0(*)	25,0	33,3	0,0
<b>Bodenarbeit, Western</b>	28,6	50,0	35,7**	50,0	50,0	28,6*	21,4*	28,6	8,3

Angaben in %	TH1	TH2	TH3	TH4	TH5	TH6	TH7	TH8	TH9
Nicht gearbeitet	12,7	12,7	12,7	14,5	14,5	14,5	12,7	14,5	14,5
<b>reines Springpferd</b>	13,3	13,3	26,7	20,0	20,0	20,0	20,0	20,0	20,0
reines Dressurpferd	18,4	18,4	23,7	23,7	23,7	23,7	23,7	21,1	21,1
<b>Dressur, Springen</b>	16,1	16,1	19,4	19,4	22,6	25,8	22,6	19,4	19,4
reines Westernpferd	29,4*	29,4*	29,4	35,3*	35,3	35,3	41,2**	41,2**	41,2**
<b>Western, Dressur</b>	14,3	14,3	14,3	14,3	14,3	14,3	14,3	14,3	14,3
reines Bodenarbeitspferd	10,6	10,6	12,8	17,0	21,3	23,4	21,3	17,0	14,9
<b>Bodenarbeit, Springen</b>	75,0(**)	75,0(**)	75,0(**)	75,0(**)	75,0(**)	75,0(**)	50,0	50,0	50,0
Bodenarbeit, Dressur	5,7	5,7	5,7*	8,6	8,6	11,4	8,6	8,6	11,4
<b>Bodenarbeit, Dressur, Springen</b>	0,0	0,0	0,0	0,0	0,0	25,0	25,0	25,0	25,0
<b>Bodenarbeit, Western</b>	7,1	7,1	7,1	7,1	7,1	7,1	7,1	0,0(*)	0,0

Angaben in %	<b>TH10</b>	<b>TH11</b>	<b>TH12</b>	<b>TH13</b>	<b>TH14</b>	<b>TH15</b>	<b>TH16</b>	<b>TH17</b>	<b>TH18</b>
Nicht gearbeitet	9,1	10,9	10,9	12,7	14,5	14,8	16,7	16,7	16,7
<b>reines Springpferd</b>	20,0	26,7	33,3	33,3	40,0**	40,0**	40,0**	40,0**	40,0**
reines Dressurpferd	23,7	26,3	28,9*	26,3	23,7	21,1	21,1	21,1	21,1
<b>Dressur, Springen</b>	16,1	16,1	16,1	16,1	16,1	19,4	19,4	19,4	19,4
reines Westernpferd	35,3**	29,4	23,5	23,5	23,5	23,5	23,5	23,5	23,5
<b>Western, Dressur</b>	28,6	28,6	28,6	28,6	28,6	28,6	14,3	14,3	14,3
reines Bodenarbeitspferd	8,5	6,4**	8,5	10,6	17,0	14,9	10,6	10,6	8,5
<b>Bodenarbeit, Springen</b>	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0
Bodenarbeit, Dressur	8,6	8,6	8,6	11,4	8,6	8,6	5,7*	2,9**	2,9**
<b>Bodenarbeit, Dressur, Springen</b>	16,7	16,7	16,7	16,7	16,7	16,7	16,7	16,7	16,7
<b>Bodenarbeit, Western</b>	7,1	7,1	14,3	14,3	14,3	14,3	14,3	14,3	14,3

Angaben in %	L1	L2	L3	L4	L5	L6	LSÜ	* p<0,1
Nicht gearbeitet	25,9	25,9	25,9	24,1	24,1	24,1	1,9	** p<0,05
<b>reines Springpferd</b>	26,7	26,7	26,7	26,7	26,7	26,7	7,7	(...) Erwartete
reines Dressurpferd	31,6*	31,6*	23,7	15,8	15,8	15,8	2,6	Anzahl<5
<b>Dressur, Springen</b>	22,6	22,6	22,6	22,6	19,4	19,4	3,3	
reines Westernpferd	17,6	17,6	17,6	17,6	23,5	23,5	11,8	
<b>Western, Dressur</b>	14,3	14,3	14,3	14,3	14,3	14,3	0,0	
reines Bodenarbeitspferd	4,3**	4,3**	4,3**	4,3**	4,3**	4,3**	0,0	
<b>Bodenarbeit, Springen</b>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
Bodenarbeit, Dressur	5,7**	5,7**	5,7*	5,7*	5,7*	5,7*	2,9	
<b>Bodenarbeit, Dressur, Springen</b>	8,3	0,0	0,0	0,0	0,0	0,0	9,1	
<b>Bodenarbeit, Western</b>	21,4	21,4	21,4	21,4	21,4	21,4	0,0	

