



**FEI**<sup>™</sup>

**VAULTING**

# Training and the Vaulting Horse

FEI Online Vaulting Forum 2024



# **Horse Welfare and Vaulting**

**Where are we ?**

**Where and how can we improve ?**

# Intro



**Veterinarian (DVM PhD)**

**Associate Professor at University of Copenhagen (Vet School – Large Animal)**

**Certified in Animal Chiropractic (IAVC, IVCA) - Germany**

**Certified in Equine Rehabilitation (ARI) - USA**

**Dressage rider and horse owner**

**FEI Level 3 Vaulting Judge**

**FEI Permitted Treating Vet (PTV)**

**FEI Vaulting Technical Committee member since 2023**

**Chef d'Equipe for Denmark 2008-2018**

**Former vaulter**



# Agenda: Training and the Vaulting Horse

1. The link between training and Horse health and welfare
2. Specific focus points for Vaulting Horses
3. Examples of how the Rules and Guidelines (hopefully) support health and welfare in our Horses (and Vaulters)







**A Good Life for Horses**

A vision for ensuring the future involvement of horses in sport

*Interim Report to the FEI Sports Horse Forum (April 2023)*



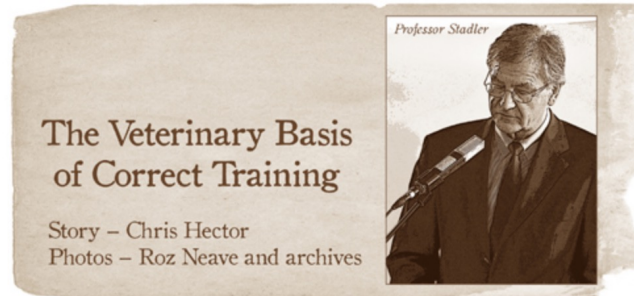
## ROLE: MAKE RECOMMENDATIONS TO THE FEI

Commission created by the FEI in June 2022 – the FEI calls them their **critical friends** ...

Purpose: **Independent advice and recommendations**. Consider issues of public and equestrian concern - **social acceptance of the involvement of horses in sport**.

Safeguard equine welfare through ethical, evidence-based policy and practices in relation to **training, management, performance and competition practices**, and to improve the sport's social license to operate (SLO).

## The Veterinary Basis of Correct Training



I have to confess that I find most veterinary lectures boring. But not the one at the German FN's Bundeschampionate Seminar – it was amazing!



It was really an extraordinary presentation from the famed German equine veterinary expert, Professor Stadler. Here it was laid out, black and white, good training (that means correct, progressive, gymnastic training) is not 'correct' because this or that 'expert' thinks it is correct, it is correct because it promotes the physical welfare and long-term soundness of the horse...

<http://www.horsemagazine.com/thm/2017/09/the-veterinary-basis-of-correct-training/>

<https://www.eurodressage.com/2011/09/16/coming-together-minds-2011-fei-young-horse-seminar-and-judges-course>

## From Dr. Stadler's presentation

(Dr. Peter Stadler. Klinik für Pferde, Stiftung Tierärztliche Hochschule Hannover, GER)

**Ancient Greek Xenophon's historical take on 'clashing aids':**

*"...if the rider holds the horse back with the rein and at the same time asks him to go forward, the horse will be irritated and will throw the chest forward and lift the legs higher because it is hot-tempered, not agile."*

**François Robichon de la Guérinière published École de Cavalerie in 1733:**

*1 – Knowledge of the horse; 2 – Adequate training, stabling and grooming; 3 – Maintenance and promotion of health.*

*"... sadly even quite good horses can suffer bone and tendon injuries. Impatient 'trainers' attempt to school them too quickly and destroy them."*

## From Dr. Stadler's presentation

**Heeres-Dienst-Vorschrift or HDV 12, the Cavalry rulebook, published in 1912 became the basis for the modern German training scale:**

*“Teaching riding must result in a reduction of temporarily unusable horses.”*

*“By preserving and promoting its natural abilities, the horse will be brought into a shape and carriage that allows full development of his strength.”*

## From Dr. Stadler's presentation

**Jean-Marie Denoix and Jean-Pierre Pailloux in Physical Therapy and Massage for the Horse: Biomechanics – Exercise – Treatment:**

*"Emotional equilibrium is as important for optimum sporting performance as the physiological fitness of the anatomical structure."*

*"Suppleness is psychological as well as physical."*

*"... the cause of pathological orthopedic conditions are poorly coordinated movements that are executed too fast or slow."*

## **From Dr. Stadler's presentation – wastage in horses**

### ***The Cavalry Report of 1929:***

*37,000 horses, wastage of 436 horses (1.18 %) with orthopedic disease affecting 32 (7 %) of the group.*

*Mean age 10.2 years.*

### ***Sedensticker (1999: Abgangsursachen entschädigter Pferde einer Tierversicherung aus den Jahren 1990-1995. Diss. med. vet., Tierärztliche Hochschule Hannover):***

*30,000 horses, wastage of 519 horses (1.73 %) with orthopedic disease affecting 233 (45 %!) of the group.*

*Mean age 8.7 years.*

# Possible risk factors for the modern sport horse

Professionals vs non-professionals

Working horses vs pleasure / hobby / sport horses

- Management (turn out, feeding, routines, ...)
- Training
- **Patience**
- Breeding
- **Education**
- Owner base
- ...





## Dr. Stadler: The solution to modern wastage is in the training:

**Cadence, rhythm** > well coordinated movements

**Suppleness** > optimal economical muscle use

**Contact** > elastic response to the aids

**Impulsion, swinging** > shock absorbing

**Straightness** > even-loading

**Collection** > load reduction of the front quarters



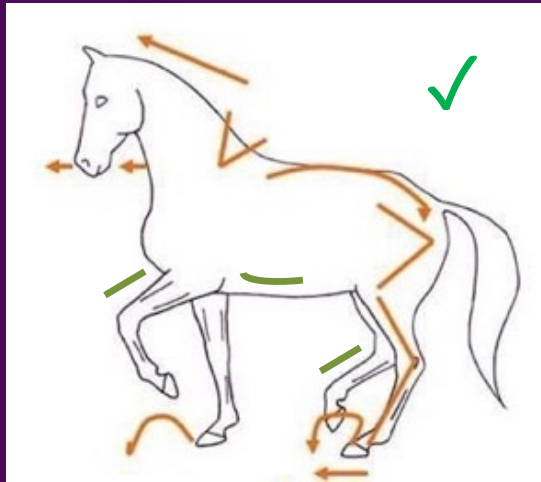
## Dr. Stadler: The solution to modern wastage is in the training:

1. **Cadence, rhythm** > well coordinated movements
2. **Suppleness** > optimal economical muscle use
3. **Contact** > elastic response to the aids
4. **Impulsion, swinging** > shock absorbing
5. **Straightness** > even-loading
6. **Collection** > load reduction of the front quarters

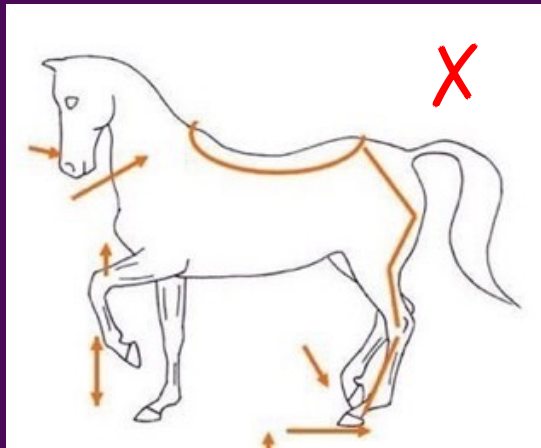


# THE TRAINING SCALE

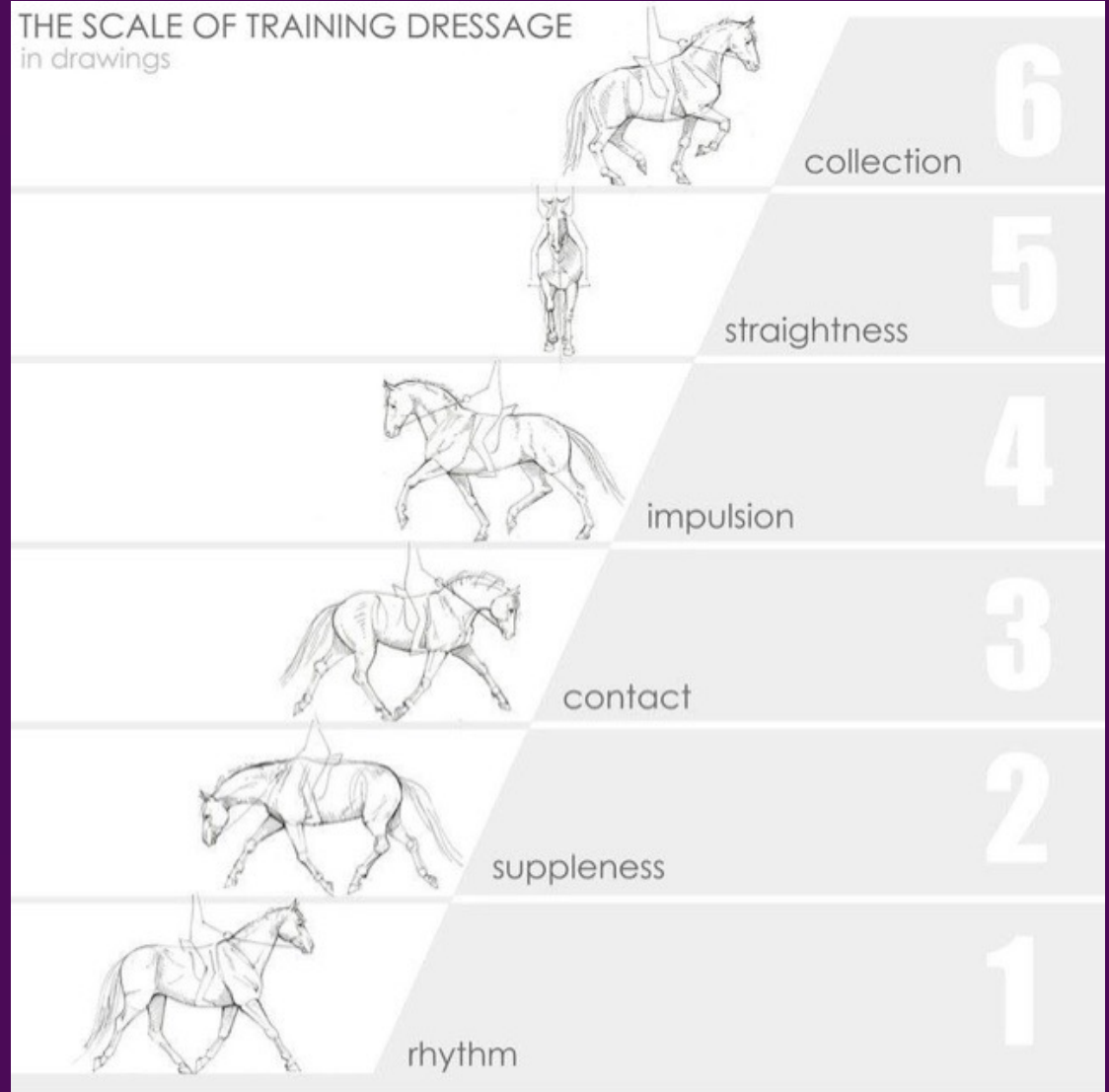
- Flexed back
- Engaged core
- Long neck
- Equal action front/hind
- Flexed hip (sits)
- Uphill
- Shoulders free
- Nose up and out



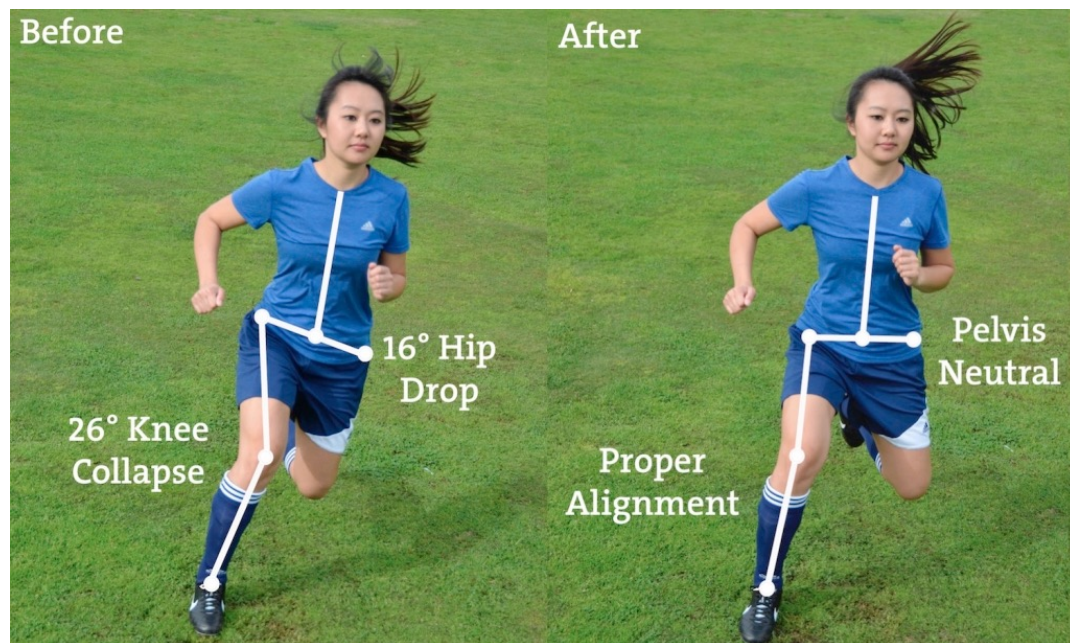
- Hollow back
- Short tight neck
- Unequal action front/hind
- Straight hip
- High croup
- Tight shoulder
- No uphill
- Nose pulled in



## THE SCALE OF TRAINING DRESSAGE in drawings



## Example from human sports medicine



'FIFA 11+': complete warm-up programme to minimize injuries (ACL) in young soccer players <14 yo. Developed by a group of international experts. Effect tested, and in a study where they used the programme 2x/week they had 30-50% fewer players with injuries. (<http://f-marc.com/11plus/home/>)



# Example of impact of training

The Veterinary Journal 198 (2013) e70–e74

Contents lists available at ScienceDirect

The Veterinary Journal

journal homepage: [www.elsevier.com/locate/tvj](http://www.elsevier.com/locate/tvj)

Development of postural balance in foals

Sandra Nauwelaerts\*, Sara R. Malone, Hilary M. Clayton

McPhail Equine Performance Center, Michigan State University, East Lansing, MI, USA

CrossMark



Fig. 1. Foal standing on a single force plate in preparation for data collection. During recordings, the handler stood close to the foal but had no physical contact with it.

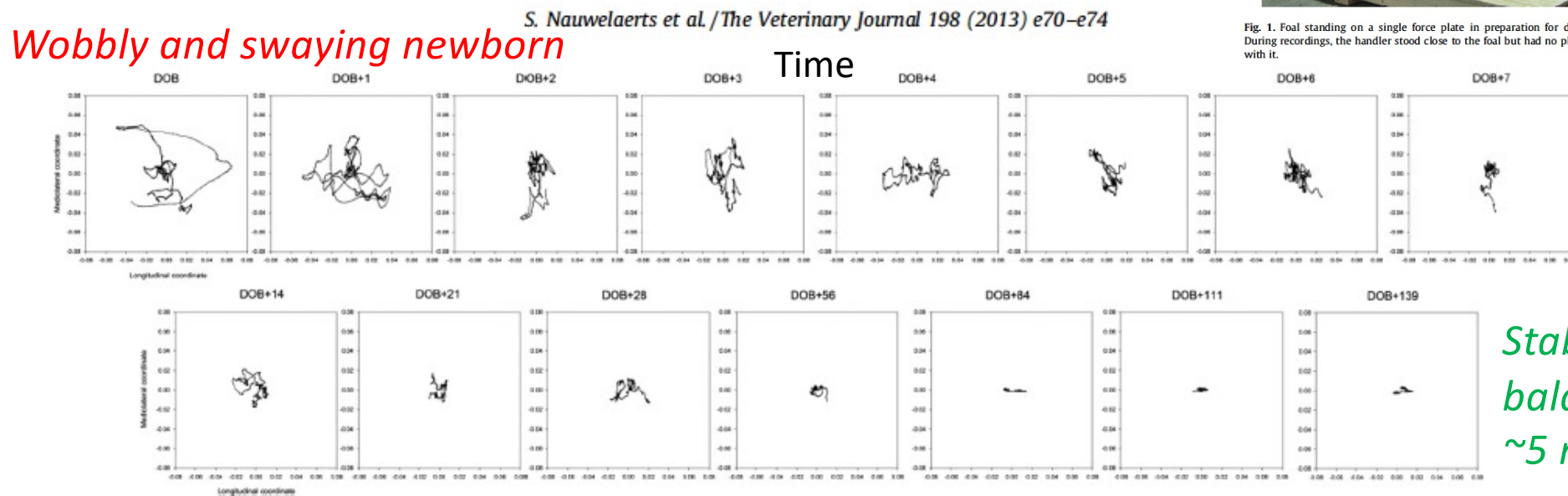


Fig. 4. Typical stabilograms of one example foal from birth to 5 months of age. The first trial recorded on each day is shown after trimming the data to 8 s duration and all stabilograms are shown with the same scaling on both axes, which is shown on the first stabilogram.



# Specific focus points for Vaulting Horses

# The work load of our vaulting horses ...

What does the research show? (only limited and relatively old data available)

- *Low cardiovascular demand compared to ridden work (pulse, respiratory rate, lactate)*
- *Vaulting horses show fewer signs of stress in the stable than other disciplines*
- *Some bony remodelling inside front, outside of inside hindleg, and inside of outside hindleg (shown in 18 Haflingers used for vaulting)*
- *Existing lunging data not always applicable*
- *Data from 'side reins' study on it's way*

Risk areas: inside front / outside hind – neck (upper / lower) – (back?)





## The work load of our vaulting horses ...

- Not cardiovascular hard work, but **posturally demanding / isometric muscle work**
- Neck in a semi-static position for several minutes at a time
- Large demand on **outside hind / inside front**
- Constantly **shifting equilibrium**
- Many of our horses (and vaulters) are **not fit enough**

Photo: Lise C. Berg

*From the presentation of Lambert Leclizio:*

## Horse training

- Only if everything before was correctly done. The horse is not a training tool but our performance partner.
- Mistakes happen **but** if it happens because THE VAULTER wasn't properly prepared, it's **NOT EXCUSABLE**.
- Horses don't need to canter longer because you can't perform an element. Make sure you did all the steps before. **BE EFFICIENT**.
- Make sure your horse is also ready for doing what you want. Their **WELLFARE** comes before your « cool move ».
- A vaulter must be **properly warmed up** for the horse training.

# Training of the Vaulting Horse

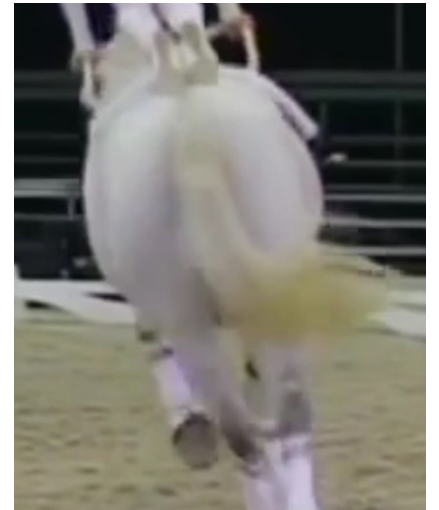
- **Canter**
  - stability, strength, suppleness, proprioception
- **Balance**
  - longitudinal and across
- **Fitness**
  - physical and mental

## Example of how training can change the horse

- Same horse in 2016 and 2018
- Same canter
- More training







# Training of the Vaulting Horse

- **Canter**
  - stability, strength, suppleness, proprioception
- **Fitness**
  - physical and mental
- **Balance**
  - longitudinal and across
- **Strong mind and body**
- **Team and training plan**

Activity	Days/week
Vaulting / lunging	Max. 2 days
Flatwork / dressage	2-3 days
Other activities (jumping, hacking, etc.)	1-2 days
'Active rest' day – hand walking etc.	1 day



# Training of the Vaulting Horse

- **Canter**
  - stability, strength, suppleness, proprioception
- **Fitness**
  - physical and mental
- **Balance**
  - longitudinal and across
- **Strong mind and body**
- **Team and training plan**
- **Trust**



## The Lunger

- The 'Rider'
- Training / education
- Confidence, awareness and empathy



# The Horse Score

**? how can we use the Horse Score to  
improve training and welfare ?**

## HORSE SCORE – 3 SCORES

A1 is the general **quality of the gait and training level** of the Horse as it is shown in the performance

A2 is the **execution** of the performance and **behaviour / willingness** of the Horse

A3 is the **quality of lunging and communication** between lungee and Horse

Quality of Canter and Quality of Training	<ul style="list-style-type: none"> <li>Rhythm: Regularity, energy, equal length of strides, clear 3-beat, clear moment of suspension.</li> <li>Relaxation: Relaxation and suppleness through the whole body of the Horse. Relaxed swinging back. Relaxed neck. Positive muscle tone.</li> <li>Connection: Bridge of engagement. Flexed back and engaged core. Energy from hindquarters flow through the body to a soft and flexible connection on the side reins and lunge line. Nose line at or slightly in front of vertical.</li> <li>Impulsion: Self carriage with elastic steps, suppleness, and engagement of hindquarters. Energy created with the hind legs well underneath Horse's centre of gravity (carrying, not pushing). Lifting of forehand (uphill tendency) and lowering of croup.</li> <li>Straightness: 'Relative' straightness on the circle line. Hind legs follow footfalls of front legs. Body is vertical. The Horse is aligned with the circle line through the whole body.</li> <li>Collection: Lowered, engaged hindquarters and croup. Shortening and narrowing of base of support resulting in lightness and mobility of the forehand. Whole top line is stretched. Shorter, powerful, energetic strides.</li> </ul>	A1	60 %									
	<table border="1"> <thead> <tr> <th>Rhythm 10 %</th> <th>Relaxation 10 %</th> <th>Connection 10 %</th> <th>Impulsion 10 %</th> <th>Straightness 10 %</th> <th>Collection 10 %</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Rhythm 10 %	Relaxation 10 %	Connection 10 %	Impulsion 10 %	Straightness 10 %	Collection 10 %			
Rhythm 10 %	Relaxation 10 %	Connection 10 %	Impulsion 10 %	Straightness 10 %	Collection 10 %							
Vault Ability of the Horse	<ul style="list-style-type: none"> <li>Willingness and obedience: Comfortable. Harmony and lightness. Alert and responsive to the lungee's aids. No resistance or hesitation. Alert and responsive to the lungee's aids. Harmony and lightness.</li> <li>Balance in tempo (forth/back): Constant correct tempo (pace and energy without speeding up or slowing down).</li> <li>Balance in circling (in/out): Constant circle of min. 15 m. diameter without falling in or out.</li> </ul>	A2	25 %									
	<table border="1"> <tbody> <tr> <td>Willingness and obedience 50 %</td> <td>Balance in tempo 25 %</td> <td>Balance in circling 25 %</td> </tr> </tbody> </table> <p>Deductions: see listed below</p>			Willingness and obedience 50 %	Balance in tempo 25 %	Balance in circling 25 %						
Willingness and obedience 50 %	Balance in tempo 25 %	Balance in circling 25 %										
Lunging	<ul style="list-style-type: none"> <li>The lunging should reflect an <b>easy and effortless collaboration</b> and communication between the lungee and the Horse. Correct and discrete use of aids. Correct position and posture. Appropriate dress. Well-adjusted equipment.</li> <li>Entry, salute, and trot round: Should be performed in a smooth flow from entering the arena, till striding off into canter and till the Vaultee touches the Horse.</li> </ul>	A3	15 %									
	<p>Deductions: see listed below</p>											





AI = QUALITY OF GAIT + LEVEL OF TRAINING (60 %)

Born with

Learned



# STEP 1: RHYTHM

*Fundamental to everything - the first thing the horse should learn*

*Purpose: Develop a **balanced, coordinated movement***

- **Rhythm with consistent cadence and regularity**
- **Clear 3 beat**
- **Clear moment of suspension**
- **Energetic strides – without running**

*Not easy! Up to 6 minutes in canter with no change in pace or rhythm...*

*Try doing that with your dressage horse on the lunge or even ridden...*





## STEP 2: RELAXATION / SUPPLENESS

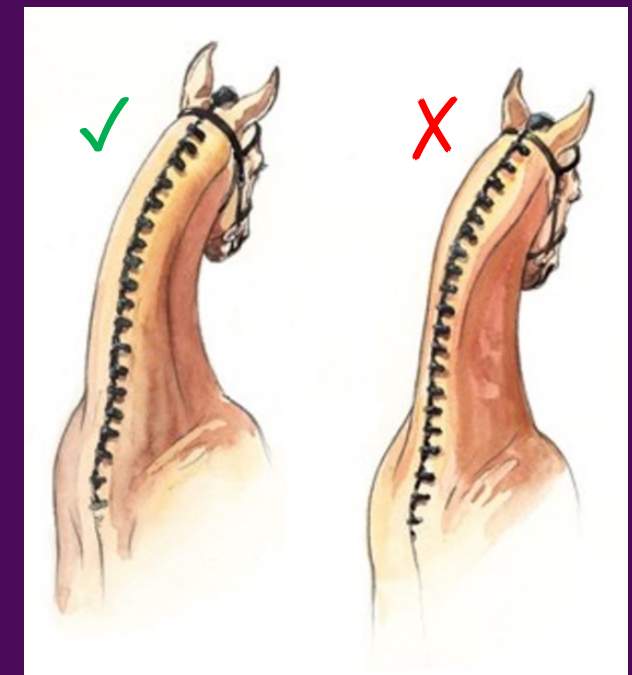
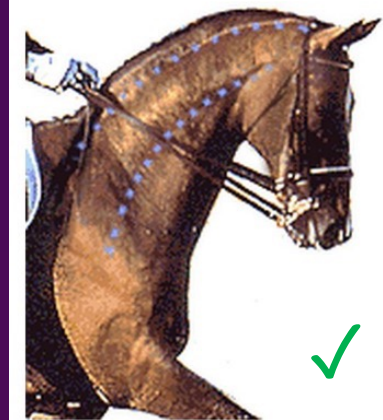
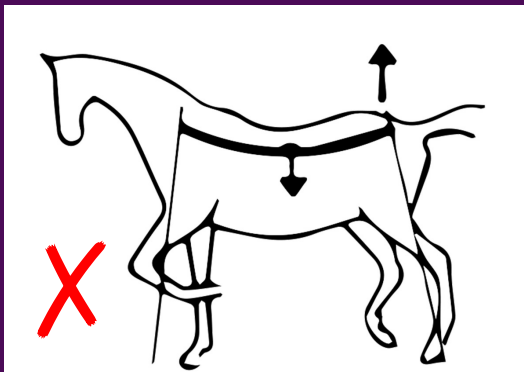
*Purpose: Optimal economical muscle use – less risk of muscle fatigue and exercise induced injury*

*Suppleness is **psychological** as well as **physical***

No negative tension - relaxed through the whole body with positive muscle tone

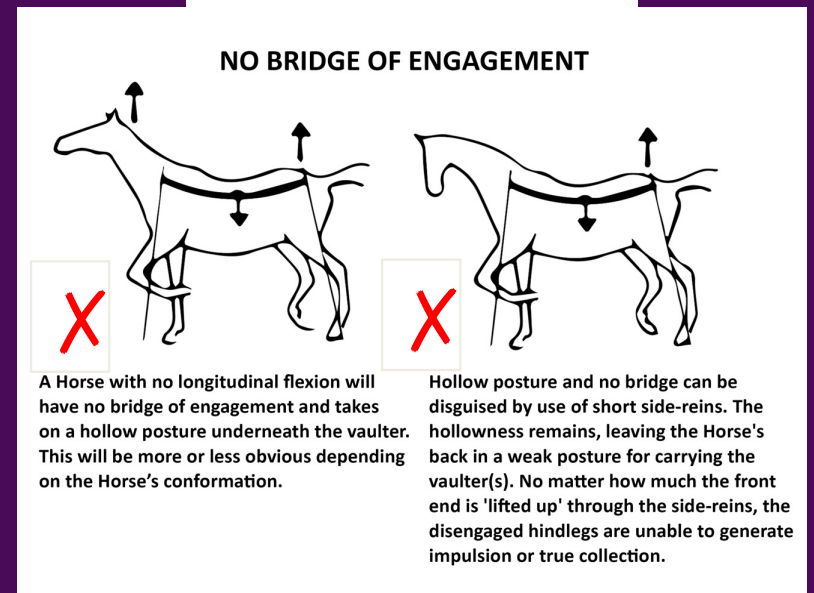
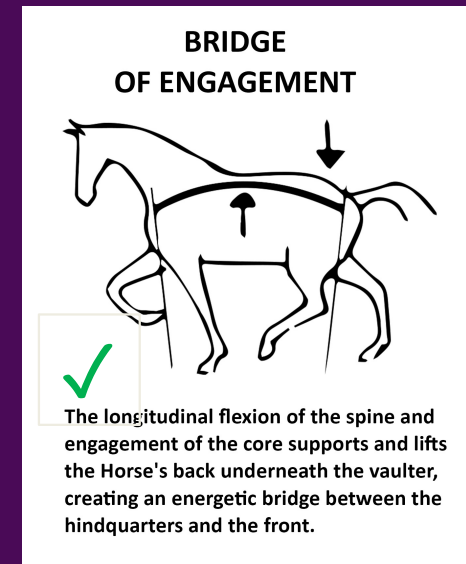
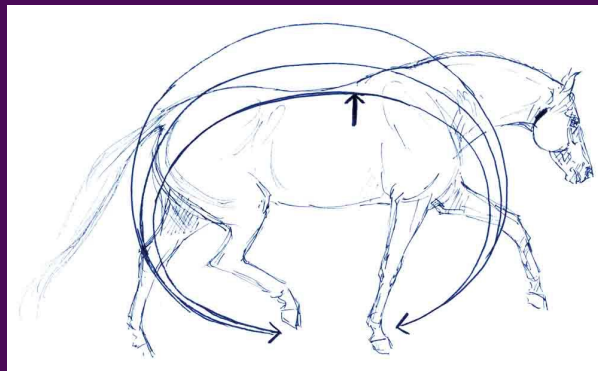
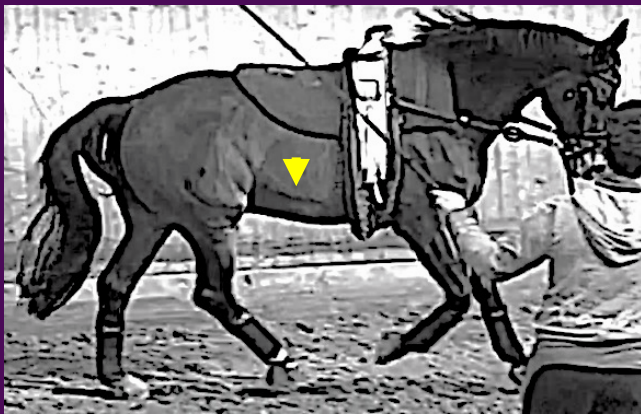
Swinging through the back

Relaxed through the neck (balancing pole)



# STEP 3: CONNECTION / CONTACT

- **"Bridge of engagement"**
  - Flexed back and engaged core (**belly line**)
  - Connected from back to front
- **Soft contact** on bridle/side reins, **soft mouth** with no tension
- **Nose / poll position** correct and not forced...

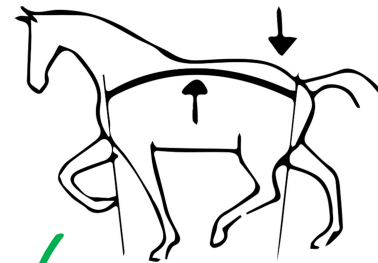


# STEP 4: IMPULSION / ENGAGEMENT (SCHWUNG)

- **Shock absorption – soft elastic bounce**
- Active hindlegs, willingness and ability to shift weight backwards (strength, balance, stability)
- Energetic without running/rushing
- Croup down and under, not pushing up
- Soft supple back and connection
- Uphill tendency – hind end lowers so front end can lift with freedom of shoulder
- Nose and neck up and out



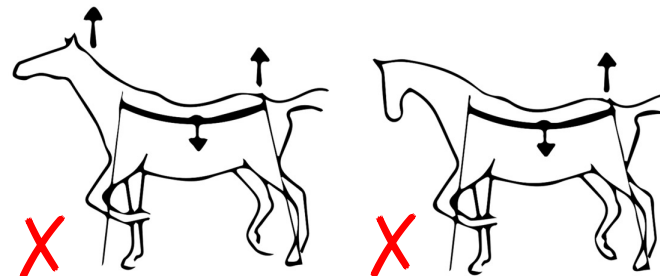
## BRIDGE OF ENGAGEMENT



The longitudinal flexion of the spine and engagement of the core supports and lifts the Horse's back underneath the vaulter, creating an energetic bridge between the hindquarters and the front.

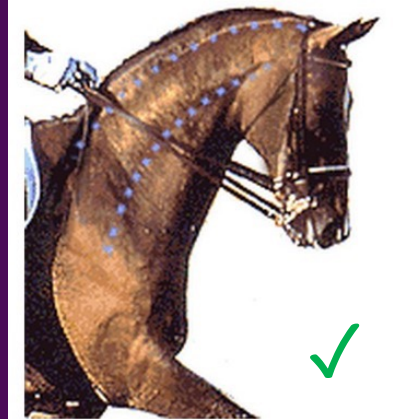


## NO BRIDGE OF ENGAGEMENT



A Horse with no longitudinal flexion will have no bridge of engagement and takes on a hollow posture underneath the vaulter. This will be more or less obvious depending on the Horse's conformation.

Hollow posture and no bridge can be disguised by use of short side-reins. The hollowness remains, leaving the Horse's back in a weak posture for carrying the vaulter(s). No matter how much the front end is 'lifted up' through the side-reins, the disengaged hindlegs are unable to generate impulsion or true collection.



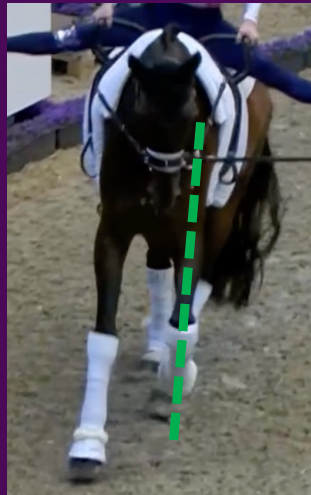


# STEP 5: STRAIGHTNESS

- **Equal loading on inside and outside – less risk of injury**
- Body close to **vertical** – not leaning inwards / on an angle (falling onto inside shoulder) (when viewed from the front/behind – this is really hard to see from inside the circle)
- The horse is **"tracking"** - hind feet in line with / in same tracks as front feet
- The bend through the head – neck – body follows line of circle (when viewed from above)
- Requires balance, strength, and body control

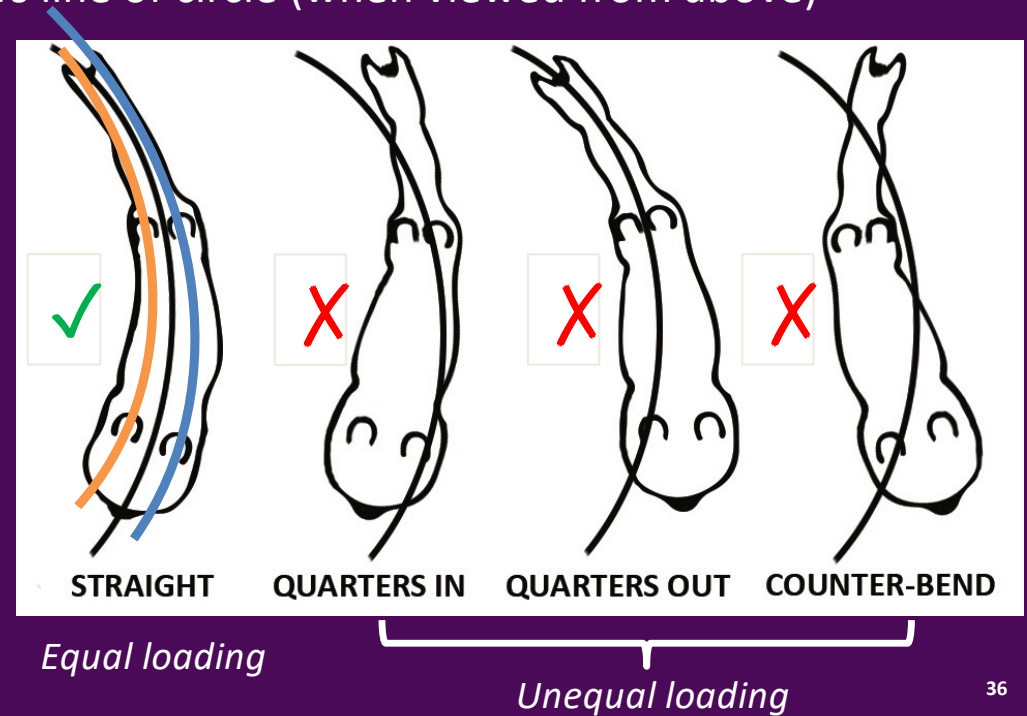


Counter bend for balance



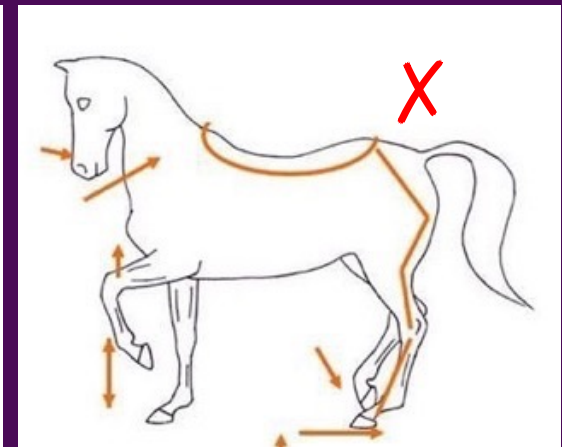
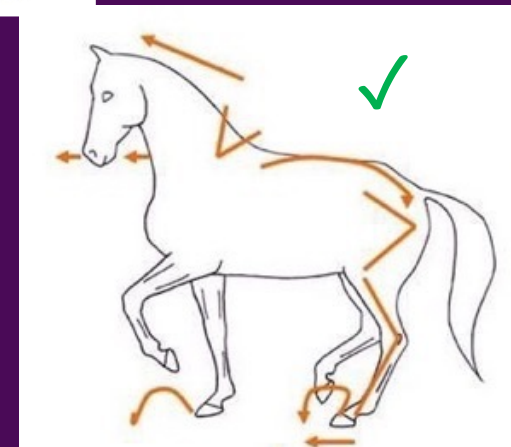
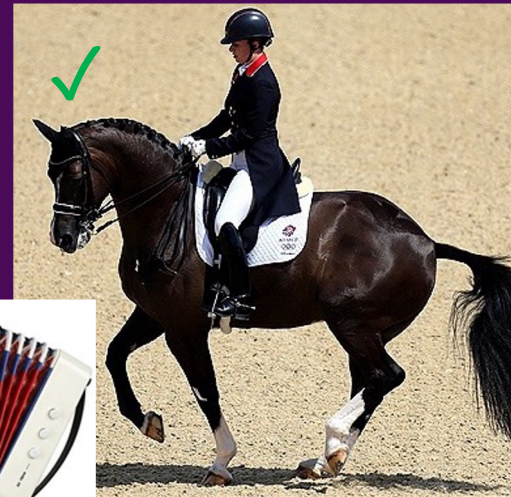
Better balance

FEI VAULTING



# STEP 6: COLLECTION

- *Load reduction in front*
- **Narrowing of base + extension of topline**
- Not just shorter frame!
- Not just slow canter!
- Collection is not about the speed, but about the way the horse is working
- All other steps MUST be in place



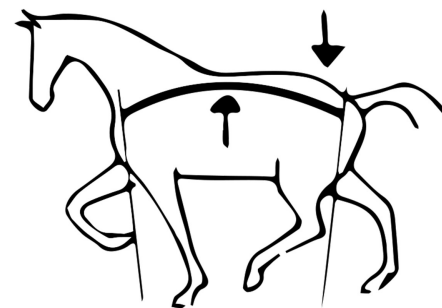
# Summary of A1 (and Dr. Stadler ...)

*Result of the six steps on the training scale, and how they improve the Horse's health and durability:*

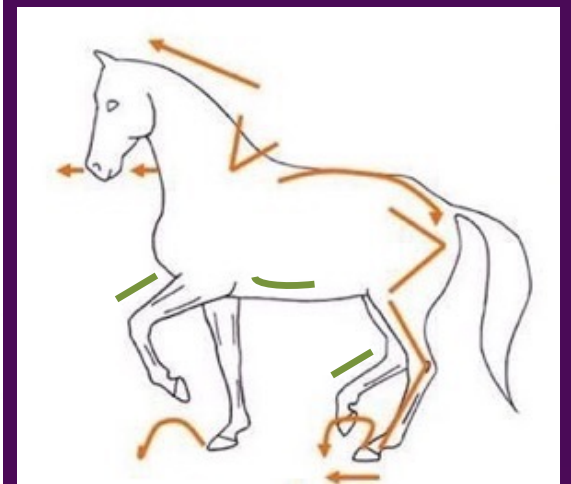
1. **RHYTHM** *Balanced, coordinated movement*
2. **RELAXATION** *Economical muscle use, suppleness. Less risk of fatigue*
3. **CONNECTION** *"Bridge of engagement"*
4. **IMPULSION** *Shock absorption and shift of loading*
5. **STRAIGHTNESS** *Equal loading*
6. **COLLECTION** *Load reduction in front, freedom in the neck and shoulders*



## BRIDGE OF ENGAGEMENT



The longitudinal flexion of the spine and engagement of the core supports and lifts the Horse's back underneath the vaulter, creating an energetic bridge between the hindquarters and the front.



# A2 – VAULT ABILITY + A3 – LUNGING

- The Horse is **willing, alert** and **responsive** without **hesitation** or **resistance**

- The Horse look **comfortable**

- Good **communication** and **collaboration** between lunger and Horse

- **Discrete** and **correct** aids

Vault Ability of the Horse	<ul style="list-style-type: none"> <li>• Willingness and obedience: Comfortable. Harmony and lightness. Alert and responsive to the lunger's aids. No resistance or hesitation. Alert and responsive to the lunger's aids. Harmony and lightness.</li> <li>• Balance in tempo (forth/back): Constant correct tempo (pace and energy without speeding up or slowing down).</li> <li>• Balance in circling (in/out): Constant circle of min. 15 m. diameter without falling in or out.</li> </ul>			A2	25 %
	Willingness and obedience 50 %	Balance in tempo 25 %	Balance in circling 25 %		
	Deductions: see listed below				

Lunging	<ul style="list-style-type: none"> <li>• The lunging should reflect an easy and effortless collaboration and communication between the lunger and the Horse. Correct and discrete use of aids. Correct position and posture. Appropriate dress. Well-adjusted equipment.</li> <li>• Entry, salute, and trot round: Should be performed in a smooth flow from entering the arena, till striding off into canter and till the Vaulters touches the Horse.</li> </ul>			A3	15 %
	Deductions: see listed below				



## From Dr. Stadler's presentation

*Dr. Stadler:*

*"There is nothing wrong with the FEI rules, or the FEI ethical guidelines, it is just the **discrepancy between** these **noble ambitions** and the **reality**."*

*"I'm less pessimistic, but there is a lot of work to do both at the top, but especially at the lower levels, and this is the responsibility of both **trainers** and **judges / rules / guidelines**"*

Photo: Amanda Staalsø

## Final notes

Our horses do not choose to participate – so we have a huge responsibility to ensure their **welfare and happiness**

Work load **must be constantly adjusted** to training level, physical and mental fitness and health status – but this will only happen if the trainer / lunger / rider is **able and willing** to assess the status of the Horse

Fit to **perform** and fit to **compete** – more than just lameness

Aim: A Good Life for Vaulting Horses – 24 / 7

*Quote (from my dressage trainer): “The horse should always be in a better place physically and mentally after a training session”*



**THANK YOU !**

*Photo: Mette Øxenbjerg Sylvest*

