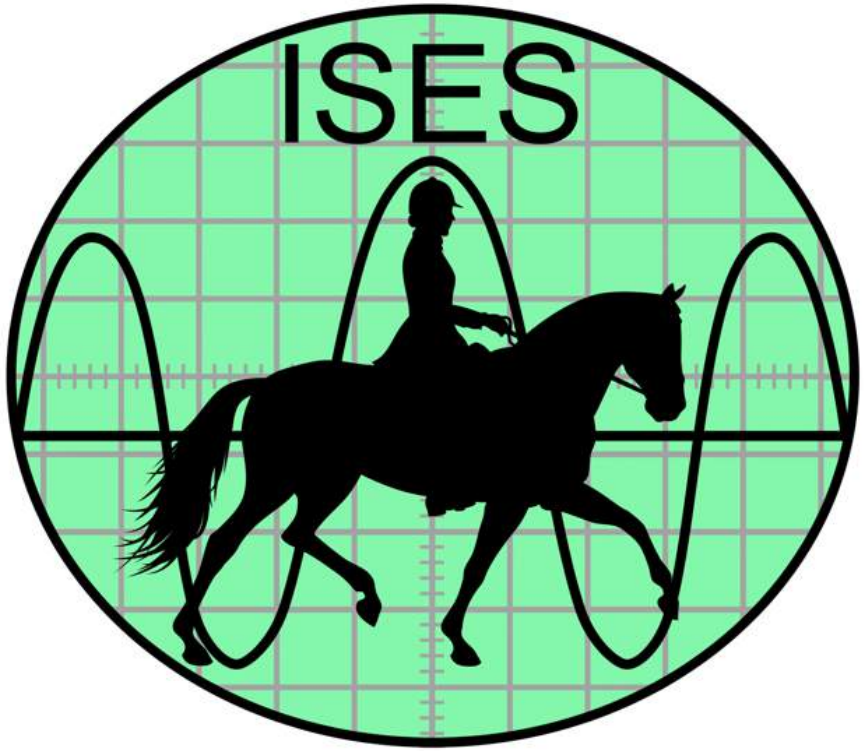
RSPCA Animal Welfare Seminar 2023
Quit horsing around: Advancing horse welfare in Australia

Equitation Science
- contributions to horse welfare



Paul McGreevy
School of Environmental and Rural Science
University of New England

Topics

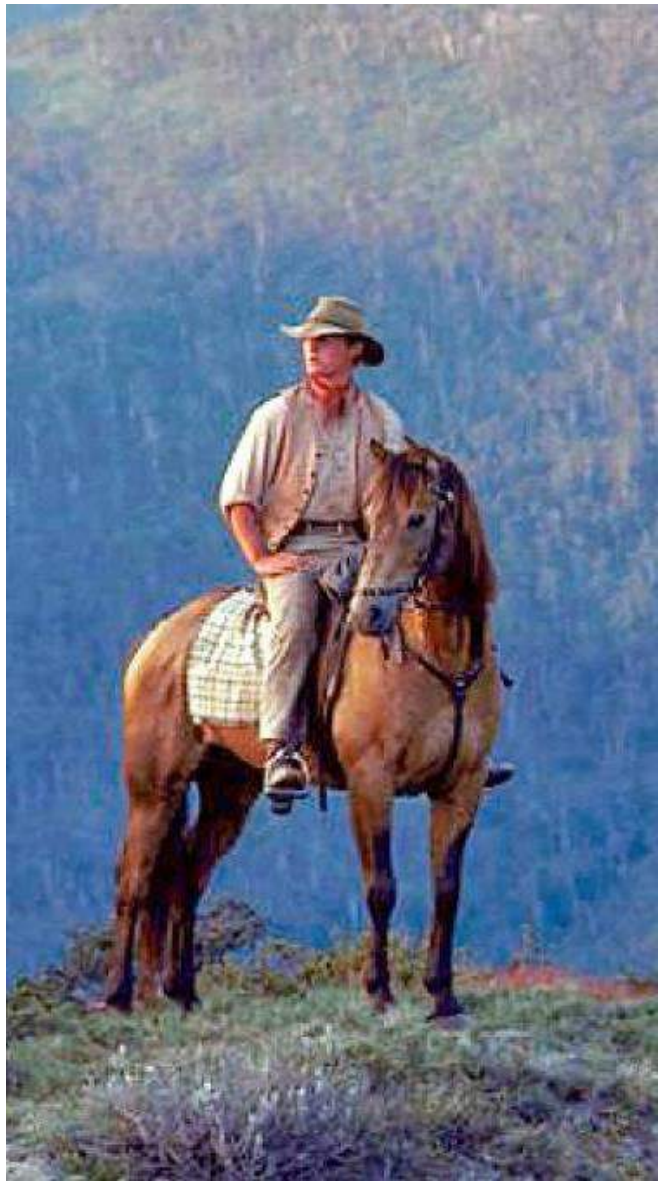
- Origins of concern for horses
- 20 years ago
- Performance vs welfare
- Veterinary leadership on welfare
- Equitation science
- Social license to operate
- Whips & nosebands
- Five Freedoms & Five Domains
- One Welfare
- Australian national guidelines on the welfare of horses
- 20 years from now:

The origins of concern

Horses:

- “trust” ; “leadership”; ”partnership”

- acted as ambassadors for other members of the animal kingdom;
- bridge at least three stakeholder groups; and
- may be their own worst enemies



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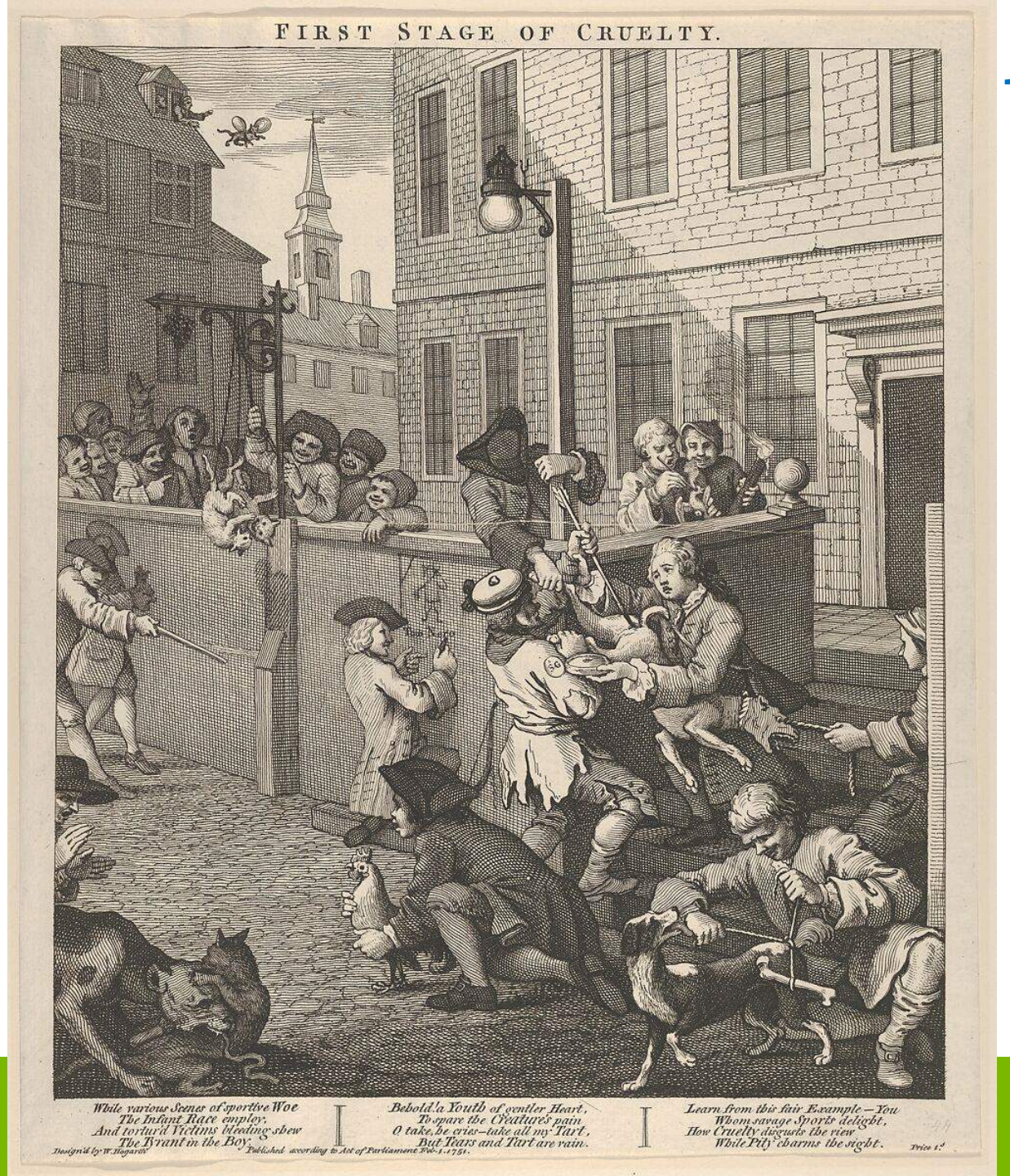
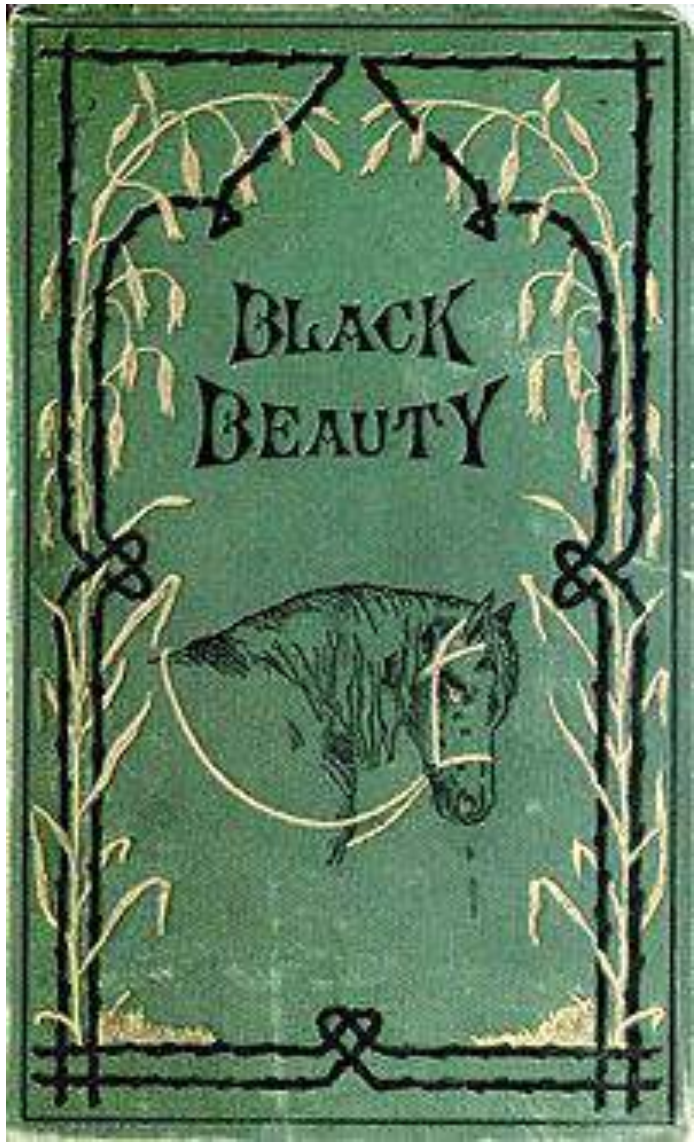
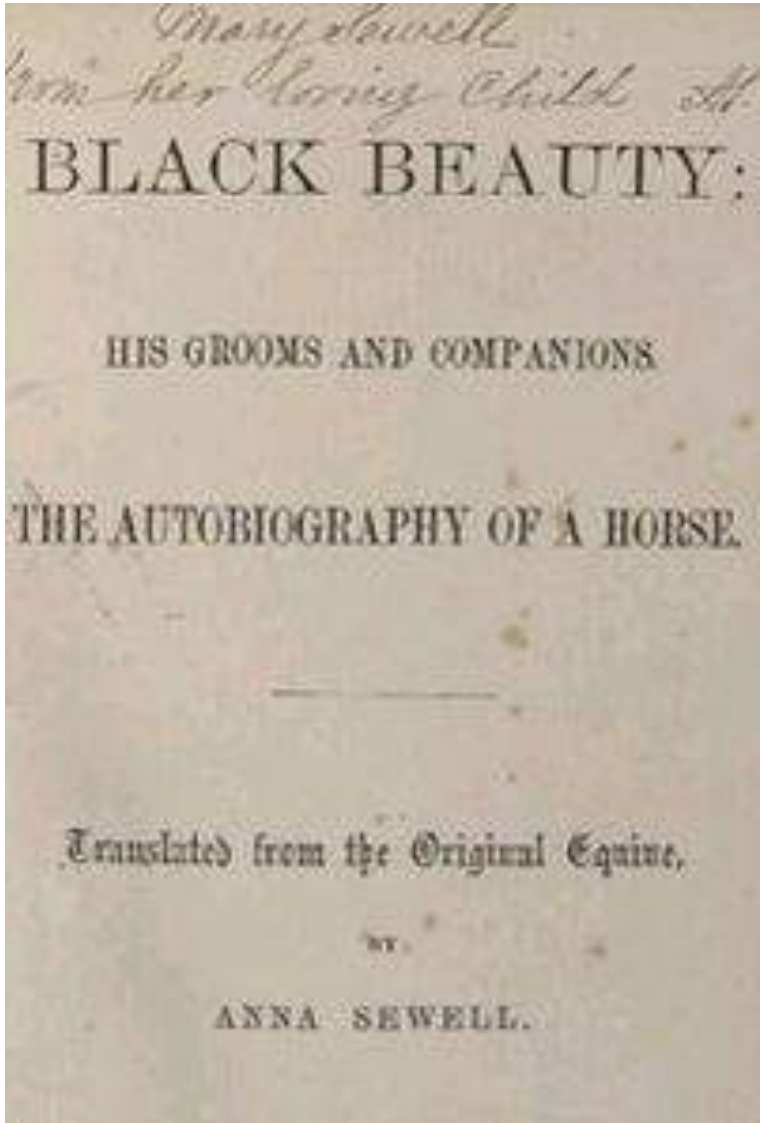

FIRST STAGE OF CRUELTY.
While various Scenes of sportive Woe
The Infant Race employ,
And tortur'd Victims bleeding shew
The Tyrant in the Boy;
Behold! a Youth of gentler Heart,
To spare the Creatures pain
O take, he cries—take all my Tart,
But Trays and Tart are vain.
Learn from this fair Example—You
Whom savage Sports delight,
How Cruelty disgusts the view
While Pity charms the sight.
Design'd by W. Hogarth
Published according to Act of Parliament Feb. 1. 1751.
Price 1d

The generous steed in hoary age
Subdued by labour lies,
And many a cruel master's rage,
While Nature strength denies...

1751





"If a thing is right, it can be done,

and if it is wrong, it can be done without; and a good man will find a way."

RSPCA Australia Sci Sem 2002

Summaries of talks

- The contribution of equine science to horse welfare
  Professor Reuben Rose, Dean of the Faculty of Veterinary Science, University of Sydney
- Addressing the demands of performance and competition through science
  Assoc. Professor David Evans, Faculty of Veterinary Science, University of Sydney
- Welfare issues relating to the racing of 2-year-old thoroughbreds
  Professor David Hodgson, Faculty of Veterinary Science, University of Sydney
- Cruelty to horses- the work of the RSPCA
  Steve Coleman, Acting CEO and Chief Inspector, RSPCA NSW
- Welfare issues relating to the ownership of the hobby horse
  Dr Penny Trevor-Jones, University of Western Sydney
- Housing and management of the stabled horse
  Professor Andrew Clarke, Faculty of Veterinary Science, University of Melbourne
- Stereotypic behaviour in the stabled horse: causes, effects and prevention
  Dr Paul McGreevy, Faculty of Veterinary Science, University of Sydney
- Conflict behaviour in the domestic horse and how to avoid it
  Andrew McLean, Australian Equine Behaviour Centre
- Controlling wild horse populations (the wild horse killers)
  Assoc. Professor Kevin Stafford, Institute of Veterinary Animal and Biomedical Studies, Massey University

2002

- 2002 9/10 speakers male
  - [6/10 veterinarians]
- 2023 3/11 speakers male
  - [2/11 veterinarians]

Peak performance assuring optimal welfare

Veterinary leadership on welfare

-
- In 2016, the British Veterinary Association (BVA) adopted a new animal welfare strategy 'Vets speaking up for animal welfare'.

- Where the traditional role of veterinarians has been to advocate only for animals in their care, this strategy provides a framework to help vets advocate good animal welfare outcomes for *all* animals.

- As recently as 2006, the Australian Veterinary Association's (AVA) strategic plan identified the rise of animal activism as one of its "major threats".
- In the AVA's 2016 strategy, animal welfare took the number one position of five priority areas.

Sentience 2012

The Cambridge Declaration on Consciousness[*]

On this day of July 7, 2012, a prominent international group of cognitive neuroscientists, neuropharmacologists, neurophysiologists, neuroanatomists and computational neuroscientists gathered at The University of Cambridge to reassess the neurobiological substrates of conscious experience and related behaviors in human and non-human animals. While comparative research on this topic is naturally hampered by the inability of non-human animals, and often humans, to clearly and readily communicate about their internal states, the following observations can be stated unequivocally:

International Society for Equitation Science (ISES) 2005

- promotes the application of objective research and advanced practice which will ultimately improve the welfare of horses in their associations with humans.
- produced several science-based position statements tha address key topics, including:

- the consequences of restrictive nosebands and
- the use/misuse of leadership and dominance concepts i horse training.
- the use of aversive stimuli

Position statement on aversive stimuli in horse training (2018)

Ethical equitation is coming into sharp focus in equestrian culture. Concurrently, the alarming death and serious injury statistics have been highlighted in scientific literature (Hawson et al., 2010). Concerns surround the ethics of various techniques in horse sports based on controlling an animal's behavioural responses (McLean and McGreevy, 2010).

Ethical and effective use of learning theory for training responses, demands that excessive and/or prolonged pressure on any part of the horse's body, except via the girth, is avoided because at least it may lead to habituation and the need for greater aversiveness in future, and at worst it can cause pain and stress. In addition, when negative reinforcement (removal of an aversive stimulus to increase the likelihood of a response) is utilised, a minimum amount and period of pressure should be applied to achieve the required response; ensuring that the timing and release of any pressure is appropriate for effective learning to take place (Waran et al., 2002; McGreevy and McLean, 2010). Positive reinforcement (addition of an attractive stimulus to increase the likelihood of a response) is also a useful tool in shaping desirable behaviours in-hand and under saddle and, where appropriate, should also be used in training horses. Positive punishment (addition of an aversive stimulus to decrease the likelihood of a response) should be avoided as a training tool because of the documented deleterious effects on learning and the horse–human bond. Behaviour problems in the handled and ridden performance or leisure horse, beyond those caused by health and ability factors, should be primarily considered as dysfunctions in application of learning theory, especially negative reinforcement.

Negative reinforcement is critical for training the appropriate responses to rider/driver/handler rein and leg signals in equitation (McGreevy and McLean, 2007). It has yet to be demonstrated that horses can be safely ridden in challenging environments without adequate training in negative reinforcement of rein and rider's leg pressures. While ethical

2007

Available online at www.sciencedirect.com
ScienceDirect
The Veterinary Journal 174 (2007) 492–500
The Veterinary Journal
www.elsevier.com/locate/tvjl

Review

The advent of equitation science

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Accepted 29 September 2006

Abstract

The lengthy association of humans with horses has established traditional equestrian techniques that have served military and transport needs well. Although effective, these techniques have by-passed the research findings of modern psychologists, who developed the fundamentals of learning theory. That said, the pools of equestrian debate are far from stagnant. The latest wave of horse whisperers has offered some refinements and some novel interpretations of the motivation of horses undergoing training. Additionally, the Fédération Equestre Internationale (FEI) has introduced the concept of the 'happy equine athlete' and, in the light of the hyperflexion (Rollkür) debate, recently examined the possible effects of some novel dressage modalities on equine 'happiness'. However, many still question the welfare of the ridden horse since it is largely trained using negative reinforcement, has to respond to pressure-based signals and is seldom asked to work for positive rewards. Science holds tremendous promise for removing emotiveness from the horse-riding welfare debate by establishing how much rein tension is too much; how much contact is neutral; how contact can be measured; how discomfort can be measured; how pain can be measured; and how learned helplessness manifests in horses. These are some of the topics addressed by equitation science, an emerging discipline that combines learning theory, physics and ethology to examine the salience and efficacy of horse-training techniques.

Two decades of science and advocacy

- It is removing emotiveness from the horse-riding welfare debate because it permits the assessment of equine discomfort, pain and learned helplessness.
- Is the scientific evidence respected?

- How much contact is neutral?
- How much rein tension is too much?
- How can discomfort be measured?
- How can pain be measured?
- How does learned helplessness manifest in horses?

Journal of Veterinary Behavior (2010) 5, 196-202

ELSEVIER

Journal of Veterinary Behavior
Clinical Applications and Research

2010

POINT-COUNTERPOINT

Ethical equitation: Applying a cost-benefit approach

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[b]*Faculty of Veterinary Science, University of Sydney, New South Wales 2006, Australia.*

KEYWORDS:
ethical equitation;
horse;
training;
competition;
utilitarianism

Abstract Riding and training horses is the basis of a multi-billion dollar industry, but their use in the developed world is predominantly for recreational, competitive, entertainment, or performance purposes. However, when we consider the poor welfare outcomes for the horses involved, our ultimate focus on fun seems a poor justification for using horses in this way. This article is not intended to diminish the use of horses in the ridden context, rather it foreshadows a time when horse welfare and equestrian competition are as balanced and sustainable as possible.

Any use of horses is inevitably associated with a range of activities and interventions that can, collectively, compromise welfare. Laws are unlikely to adequately protect horse welfare if they assume traditional practices, including the use of the whip to accelerate horses, to be "reasonable" and "acceptable" without regard to their effect. Objective measures of the influence of training and riding methods on horse welfare are needed, along with a more sophisticated ethical framework than legislation or codes currently provide.

Using a cost-benefit analysis approach is one way to test the acceptability of our impacts on horses. This requires that welfare costs associated with an activity can be reliably estimated and balanced against the potential benefits of the activity to both humans and horses. To justify our use of horses for fun, we must have a strong moral obligation to ensure that we do everything possible to avoid jeopardizing their welfare.

In other areas of animal use, particularly research, ethical models permit objective comparisons of the relative impact of different activities through "impact scales." We propose the adaptation of such models for use in equestrian contexts to identify ways to improve ridden horse welfare.

The challenge to equestrians is to maintain current levels of difficulty in competition without compromising horse welfare—for example, relying more on the skill of the trainer and rider and removing devices and training methods that negatively affect the horse.

une
University of New England

Ethical equitation

- Animal Ethics Committee model
  - Assess stress
  - Mitigate stressors, where possible
  - Justify the residual distress
- Precautionary principle

The influence of learning theory

- Horses have missed out when it comes to advances in behavioural science.

- Established traditional equestrian techniques bypassed the findings of modern learning theorists, including the principles of operant conditioning that have transformed dog training over the past 30 years.
- Accordingly, many observers now question the welfare of ridden horses since most are trained using negative reinforcement and pressure-based cues.

Dr Andrew McLean

- Ethical training
- Conflict behaviours
- Elephant training

Journal of Veterinary Behavior (2010) 5, 203-209

ELSEVIER

Journal of Veterinary Behavior
Clinical Applications and Research

POINT-COUNTERPOINT

Ethical equitation: Capping the price horses pay for human glory

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[b]*Faculty of Veterinary Science, University of Sydney, New South Wales, Australia.*

KEYWORDS:
horse;
training;
competition;
welfare

Abstract Ethical equitation is nowadays coming into sharp focus in equestrian culture. Concerns surround the ethics of sports based on controlling an animal's locomotory responses and in using animals such as horses in sport in general. Anthropomorphically labeled misinterpretations of the responses of trained horses, such as the use of terms like "mad," "lazy," "keen," and "stubborn," may be detrimental to optimal equine welfare. Similarly, the concept of the "equine athlete" may imply an ill-informed teleological explanation of the motives of the horse in sport. Despite problems in identifying the happy horse, rewarding optimal welfare and the absence of critical stress responses in performance horses is an important step forward.

Horse racing is the source of many welfare concerns because of the use of the whip and the physical dangers to horses involved in hurdle racing and steeplechasing. The use of the whip in racing is controversial and, because it does not always lead to acceleration, problematic. There is a pressing need for learning theory to be adopted in all equestrian pursuits, because such an approach would obviate the need for whips, punishment, and the use of fear in escape learning. In other disciplines, practices such as hyperflexion and soring have a significant potential to compromise the welfare of the horse in sport.

What is equitation science?

The science of horse-handling and training

An exploration of mechanisms in equine education, combining:

- physics
- ethology
- learning theory (timing and consistency)

Physics

- If we understand our signals to horses, we can refine them.

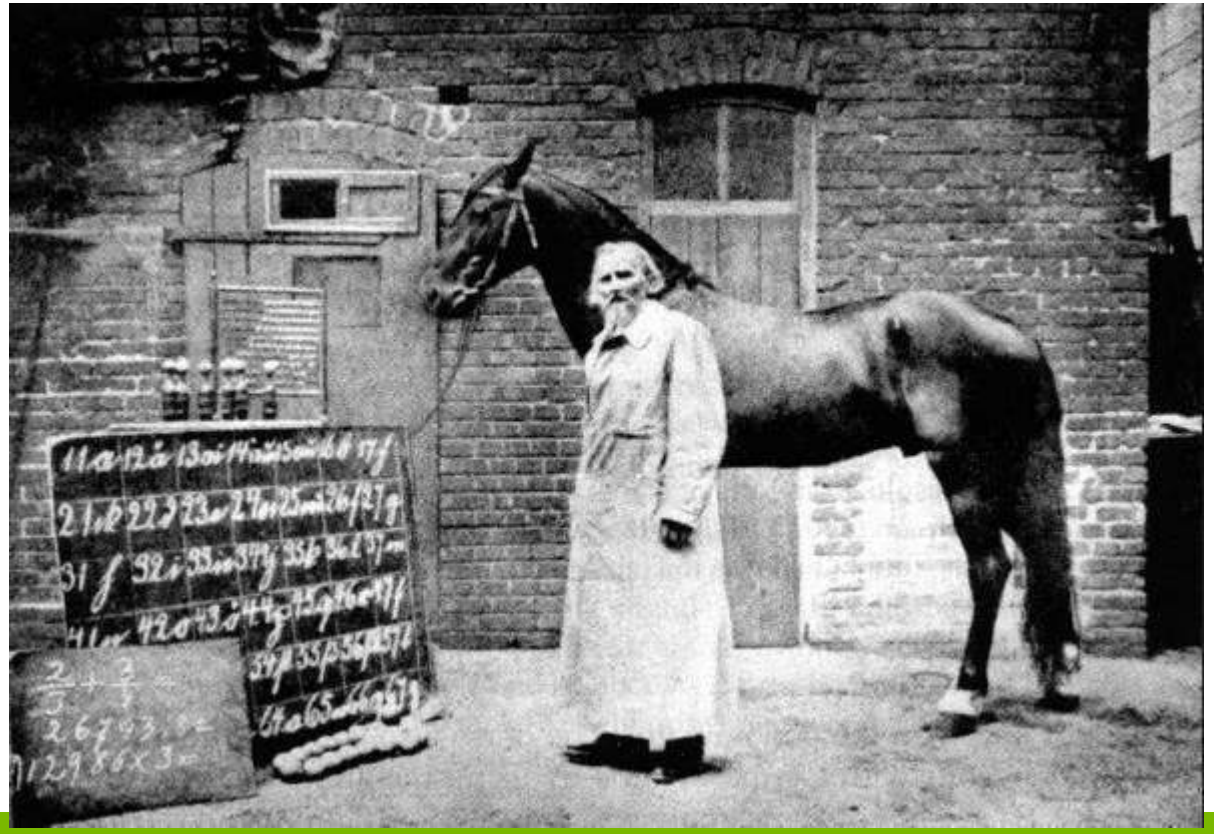
Catherine et Spartacus à Versailles

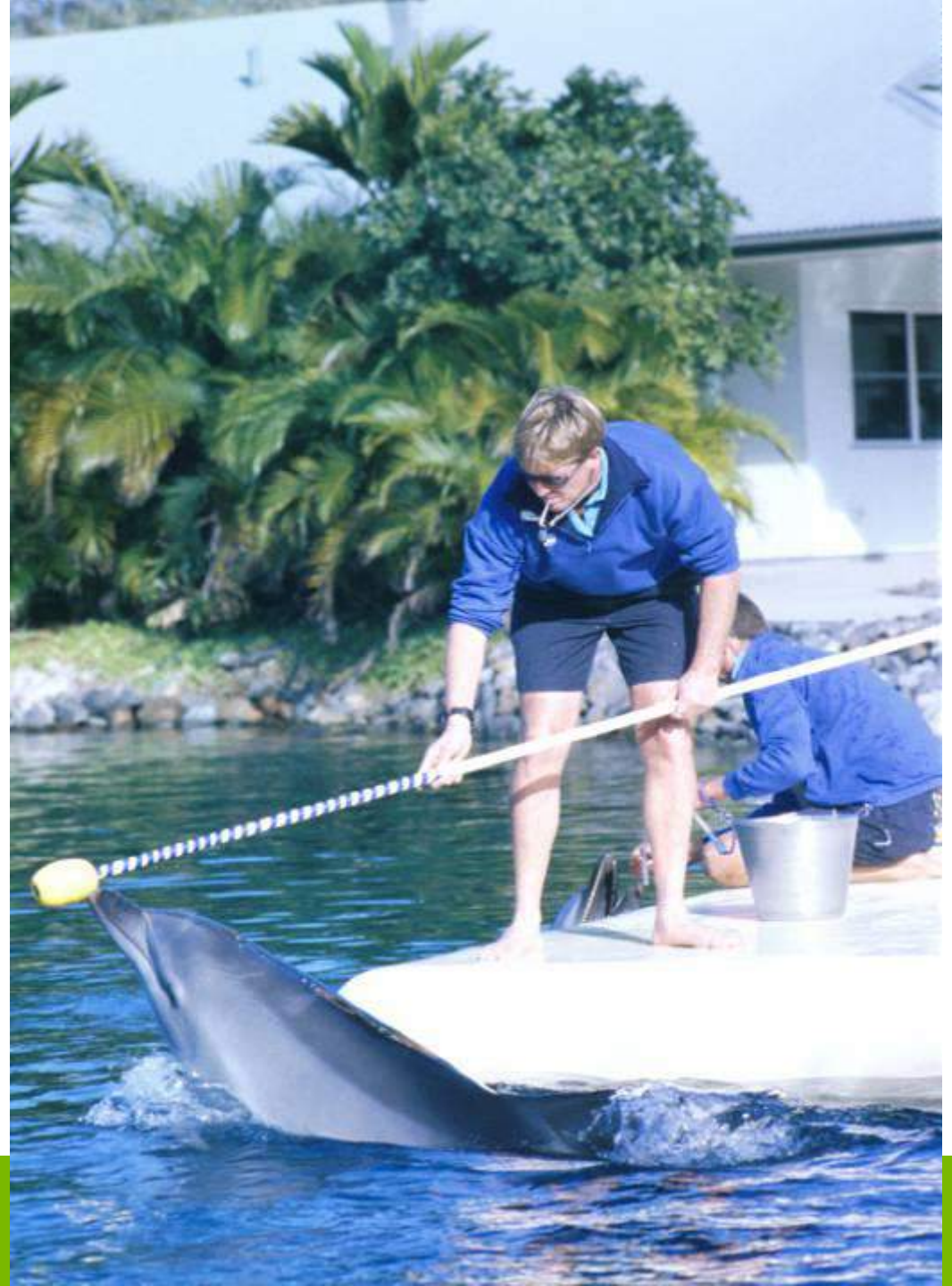
Ethology

- If we understand horses' relationships with other horses and with potential predators, we can mobilise them in training.

Learning theory

- If we understand equine learning and horsemanship, we can perfect training.



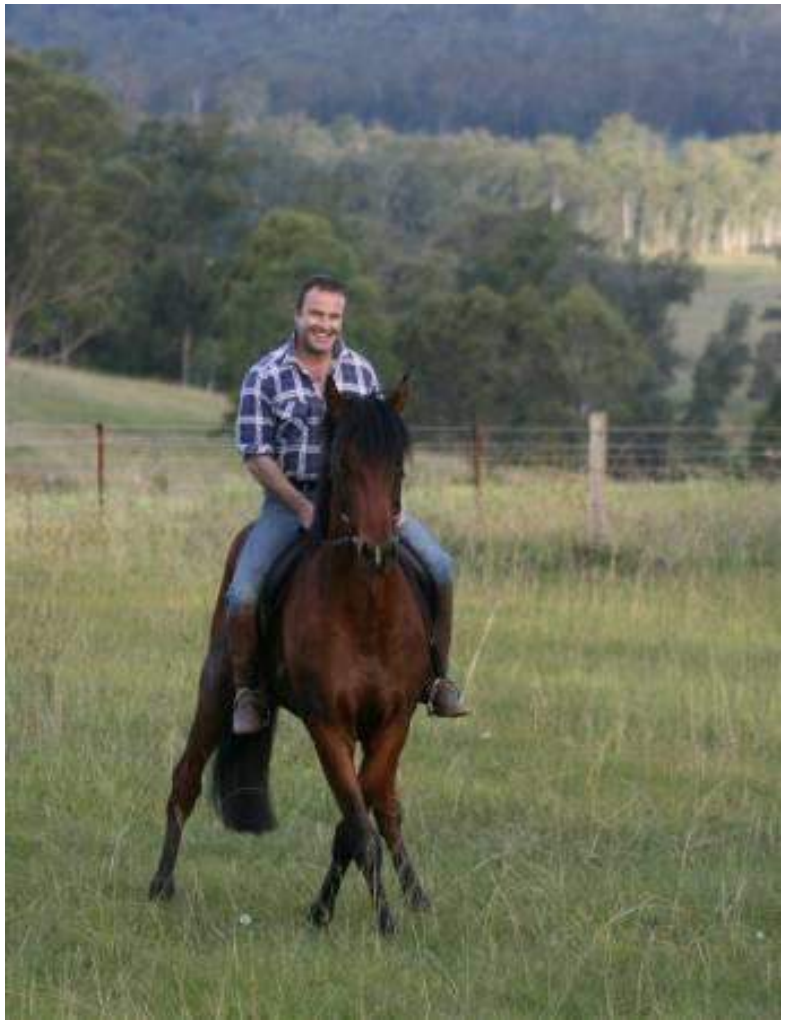


Negative reinforcement

- Removal of pressure = reinforcement

Negative reinforcement

- Underpins all equitation
- Can be very subtle
- Relies on the immediate release of pressure as an instantaneous reward



Negative reinforcement

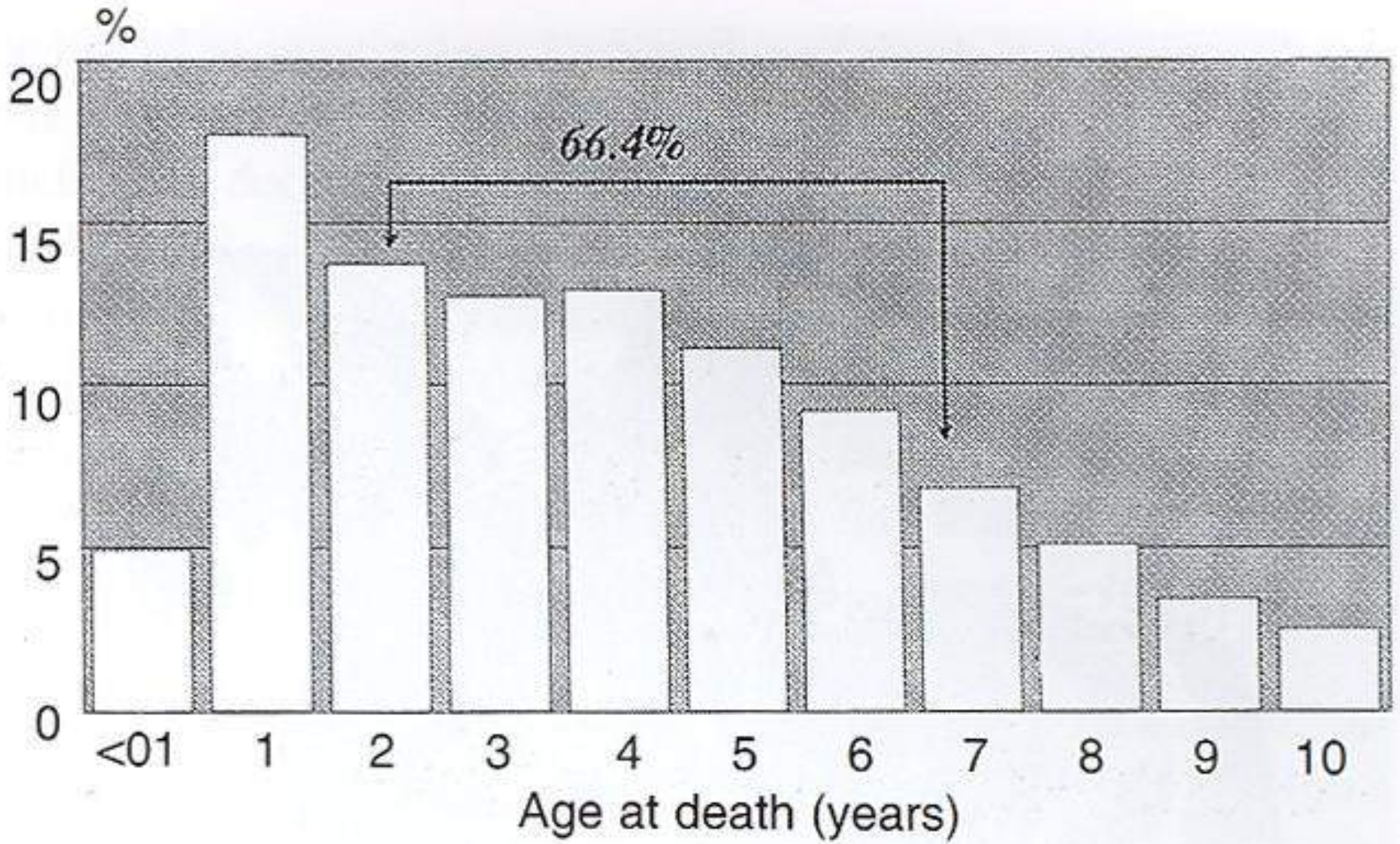


Fig 2: Stud-book registered horses born and declared dead between 1986 and 1996. Deaths according to age (n = 3100, racehorses excluded). Computed from data provided by the SIRE (France).

UK 2018

The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

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Mortality resulting from undesirable behaviours in dogs aged under three years attending primary-care veterinary practices in England

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Abstract

Undesirable behaviours (UBs) are common in dogs and can jeopardise animal and human health, leading to dog abandonment and euthanasia. Dogs exhibiting UBs may have compromised welfare from underlying emotional motivations for the behaviour (eg anxiety) or from the methods used by owners to resolve the problem (eg aversive techniques). The objective of this study was to estimate proportional mortality due to UBs and risk factors for death due to UBs, including death from road traffic accidents, in dogs under three years of age attending primary-care veterinary practices in England from 2009–2014. Cases were identified by searching de-identified electronic patient records from primary-care veterinary practices participating in the VetCompass Programme. The findings highlight that dogs under three years of age are at a proportionately high risk of death due to UBs (33.7%) compared with other specific causes of death (eg gastrointestinal issues: 14.5%). Male dogs had 1.40× the odds of death from UB compared with females. The proportional mortality from UB for male dogs where information on the cause of death was available was 0.41. Neutered dogs had 1.94× the odds of death due to a UB compared with entire dogs. Aggression was the most prevalent UB overall. Veterinarians had recommended referral in 10.3% of cases where dogs died due to exhibiting a UB and had dispensed nutraceutical, pheromone or pharmacological treatment to 3.0% of the UB cases that died. This study shows that undesirable behaviours require better preventive measures and treatment, through further research and education of veterinarians, other professionals within the dog industry and owners.

Keywords: *animal welfare, behaviour, canine, epidemiology, euthanasia, VetCompass*

Australia 2021

animals

MDPI

Article

Mortality Resulting from Undesirable Behaviours in Dogs Aged Three Years and under Attending Primary-Care Veterinary Practices in Australia

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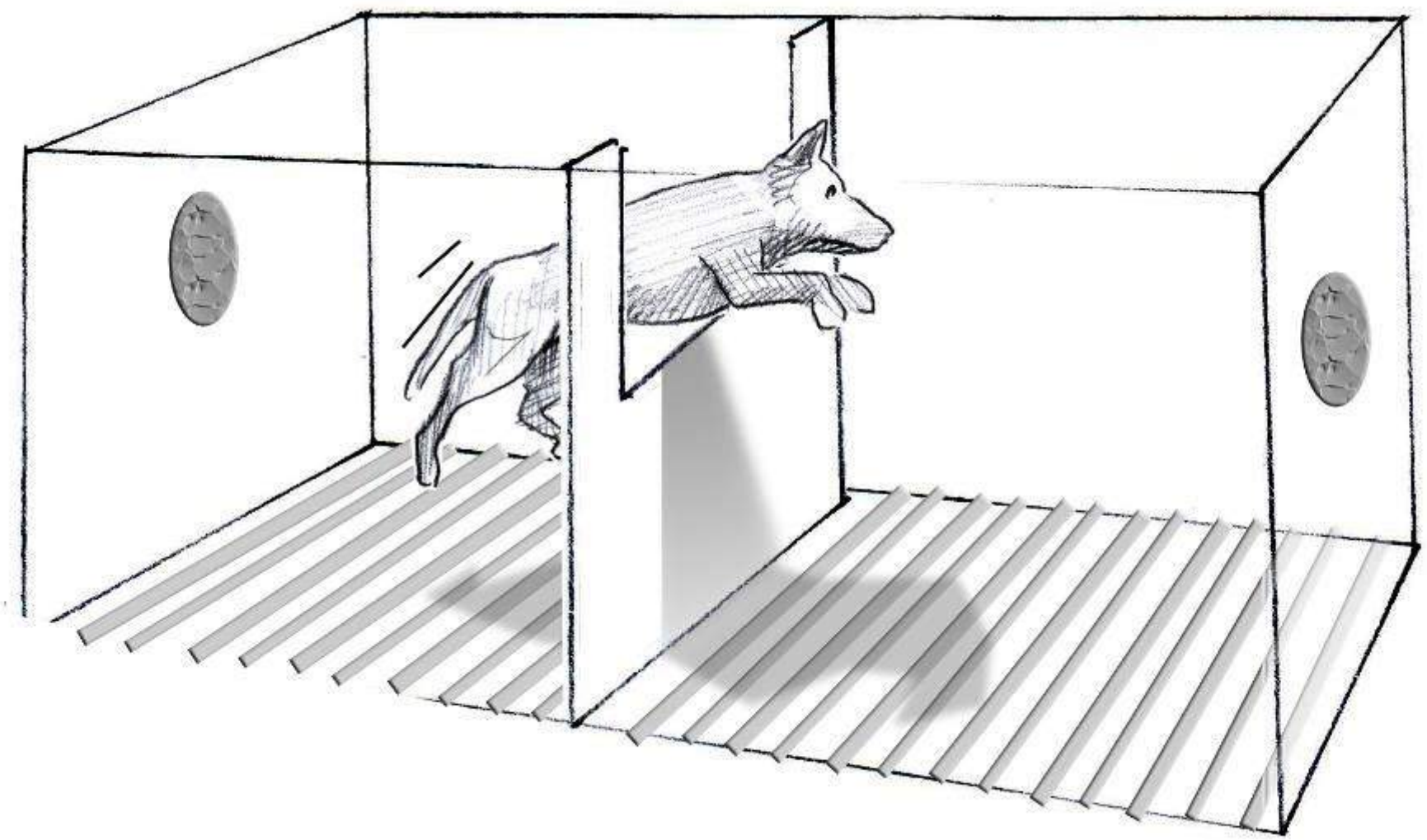
2 School of Life and Environmental Sciences, Faculty of Science, University of Sydney, Sydney, NSW 2006, Australia; diane.vanrooy@sydney.edu.au
* Correspondence: yayu5614@uni.sydney.edu.au

Simple Summary: There is increasing evidence that undesirable behaviours (UBs) in dogs can compromise the welfare of both canine companions and their associated humans. Indeed, in a recent UK study of patient records from primary-care veterinary practices, UBs emerged as the predominant cause for mortality in young dogs. The current companion study of dogs attending veterinary practices in Australia from 2013 to 2018 reports a comparable proportion of mortality (29.7%) due to UBs among dogs aged three years and under. The most commonly reported UB was aggression. Neutered dogs and purebred dogs (and specifically Australian Cattle Dogs and American Staffordshire terriers) had an elevated risk of death ascribed to at least one UB. The risk factors associated with these UBs are also reported, including interventions applied by the attending clinician (if any). The results highlight the influence of UBs on dog welfare in Australia, and infer the benefits of educating dog owners and veterinary professionals in modifying and managing UBs.

Citation: Yu, Y.; Wilson, B.; Masters, S.; van Rooy, D.; McGreevy, P.D. Mortality Resulting from Undesirable

Learned helplessness



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Routledge
Taylor & Francis Group

Is There Evidence of Learned Helplessness in Horses?

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Learned helplessness is a psychological condition whereby individuals learn that they have no control over unpleasant or harmful conditions, that their actions are futile, and that they are helpless. In a series of experiments in which dogs were exposed to inescapable shocks, this lack of control subsequently interfered with the ability to learn an avoidance task. There is evidence that both neural adaptations and behavioral despair occur in response to uncontrollable aversive experiences in rodents, although this has yet to be demonstrated in other species such as horses. However, certain traditional methods of horse training and some behavioral modification techniques—it has been suggested—may involve aversive conditions over which the horse has little or no control. When training and management procedures are repeatedly unpleasant for the horse and there is no clear association between behavior and outcome, this is likely to interfere with learning and performance—in addition to compromising welfare. This article reviews published literature and anecdotal evidence to explore the possibility that the phenomenon, learned helplessness, occurs in the horse.

2017. Social License to Operate

Roly Owers, CEO of World Horse Welfare

Julie Fiedler

"*… it is important to recognise that we are all responsible for cultivating that licence*"

Tokyo 2021
Saint Boy in the Modern Pentathlon


25
TOKYO 2020


Modern Pentathlon 近代五種
25


uvex
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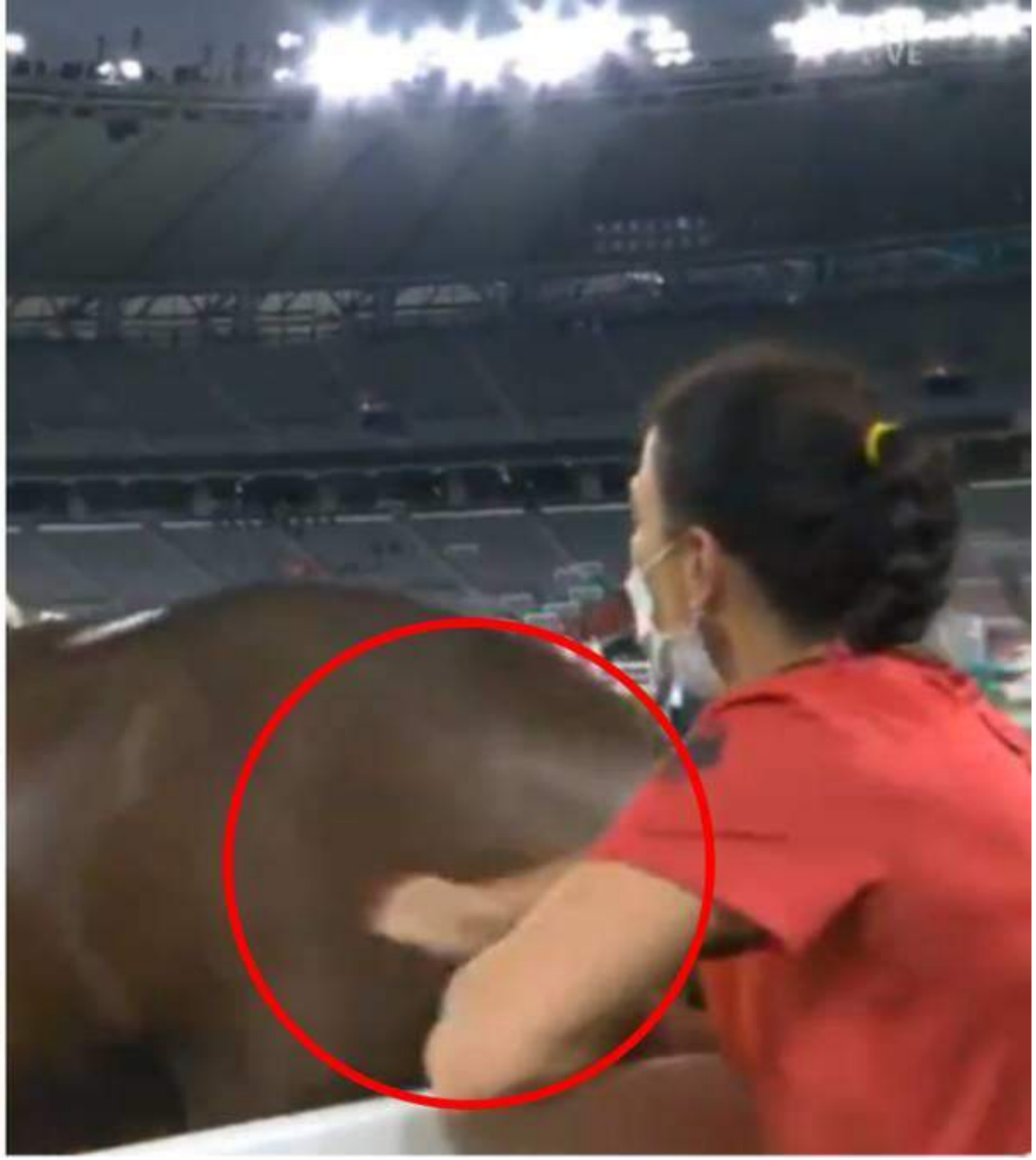

2022
Sir Mark Todd – patron of WHW

BHA
BRITISH HORSERACING AUTHORITY

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Contents lists available at SciVerse ScienceDirect

Journal of Veterinary Behavior

journal homepage: www.journalvetbehavior.com

Short Communication

A note on the force of whip impacts delivered by jockeys using forehand and backhand strikes

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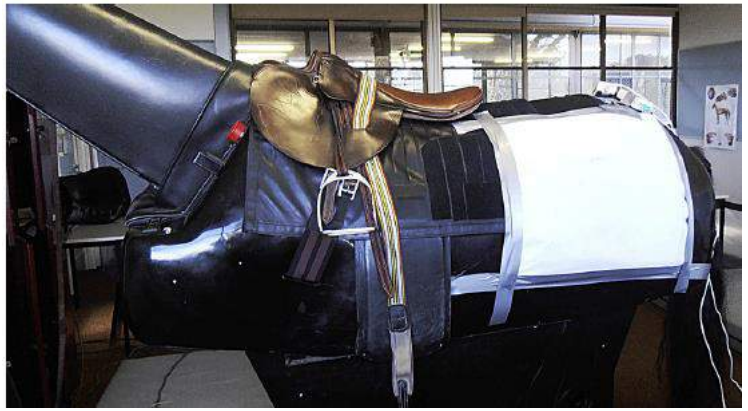
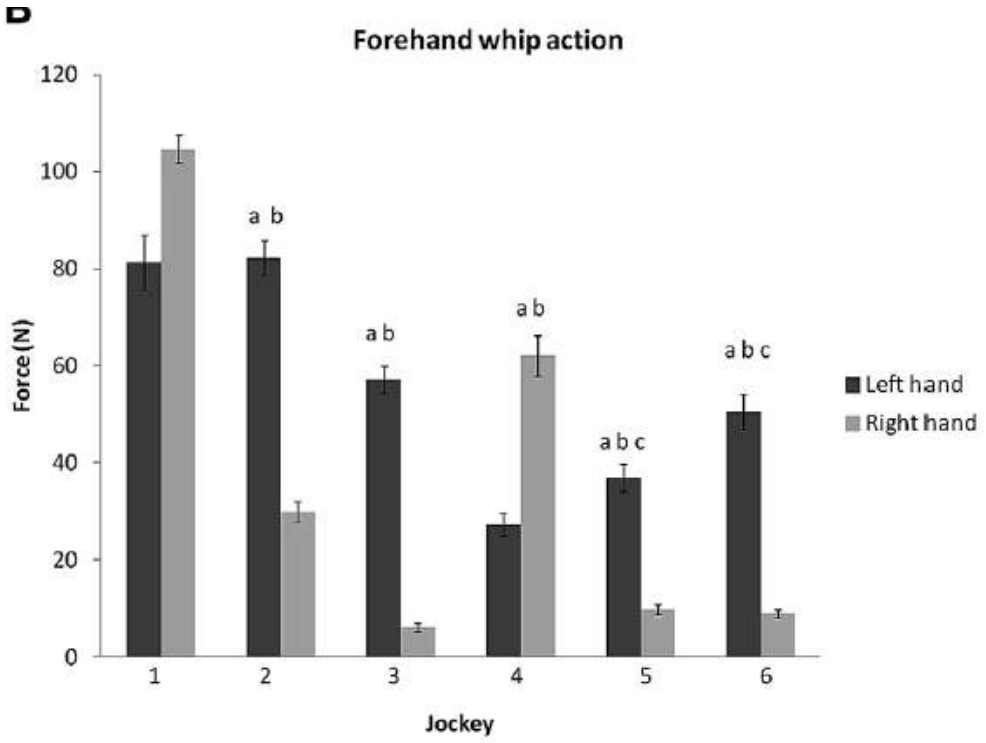
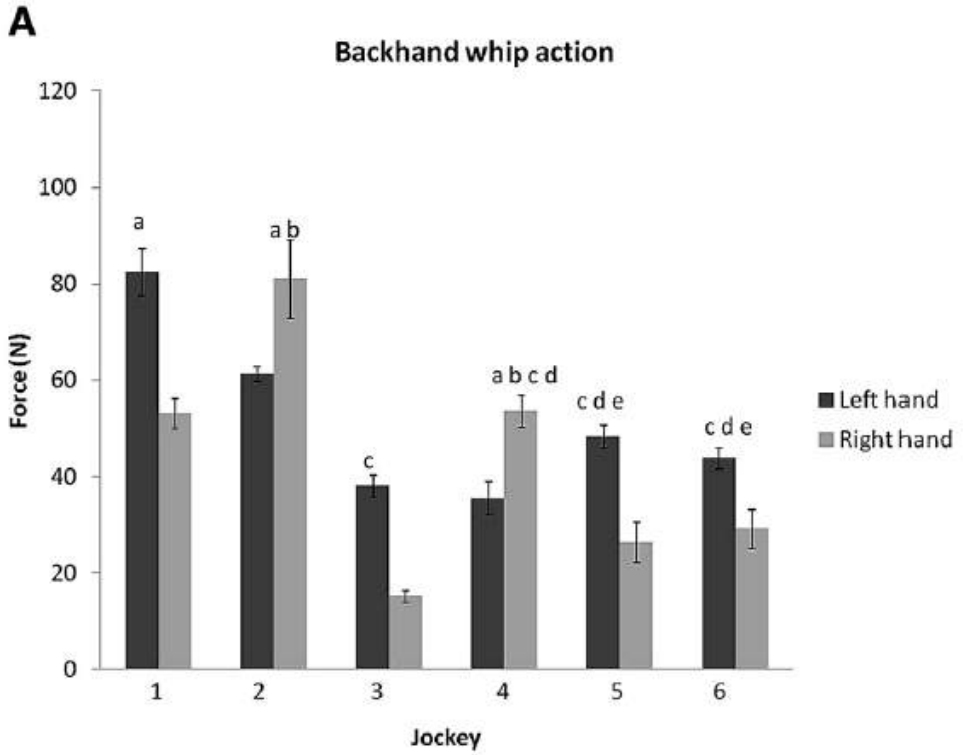
pressure detection
laterality
forehand
backhand

ABSTRACT

The Australian Racing Board makes a distinction under its Rules of Racing concerning whip use between forehand and backhand whip action that is critically important: before the final 100 m of a race, the whip shall be used in a forehand manner neither in consecutive strides nor on more than 5 occasions. This seems to imply that backhand whip use is less closely scrutinized, which may have profound implications for horse welfare. We used pressure-detection pads to examine the force on the impact of 288 whip strikes (left forehand, left backhand, right forehand, and right backhand; n = 72 each) in batches of 12 consecutive strikes by 6 right-handed jockeys based in Victoria, a state in which thoroughbred racing is always conducted in a counterclockwise direction. The mean latency (±standard error of the mean) to complete each series of 12 strikes was 6.89 ± 0.44 seconds. The mean for force was 46.90 ± 5.39 N. Significant differences in force emerged between individual jockeys and in most interactions between jockey, hand and action. This highlights the problems the industry has in trying to enforce equity in whip use to satisfy punters while at the same time giving reassurances about horse welfare. The current results show that action (forehand vs. backhand) does not influence force on impact when using the nondominant hand. However, when using the dominant hand, these jockeys struck with more force in the backhand ($P = 0.02$). This result challenges the current focus on welfare concerns around forehand whip strikes. It should inform any review of the rules around whip use because it may help to avoid any unjustified focus on either forehand whip use or backhand whip use. This would help to inform the debate around levels of impact on fatigued horses when they are being struck for a perceived sporting gain.

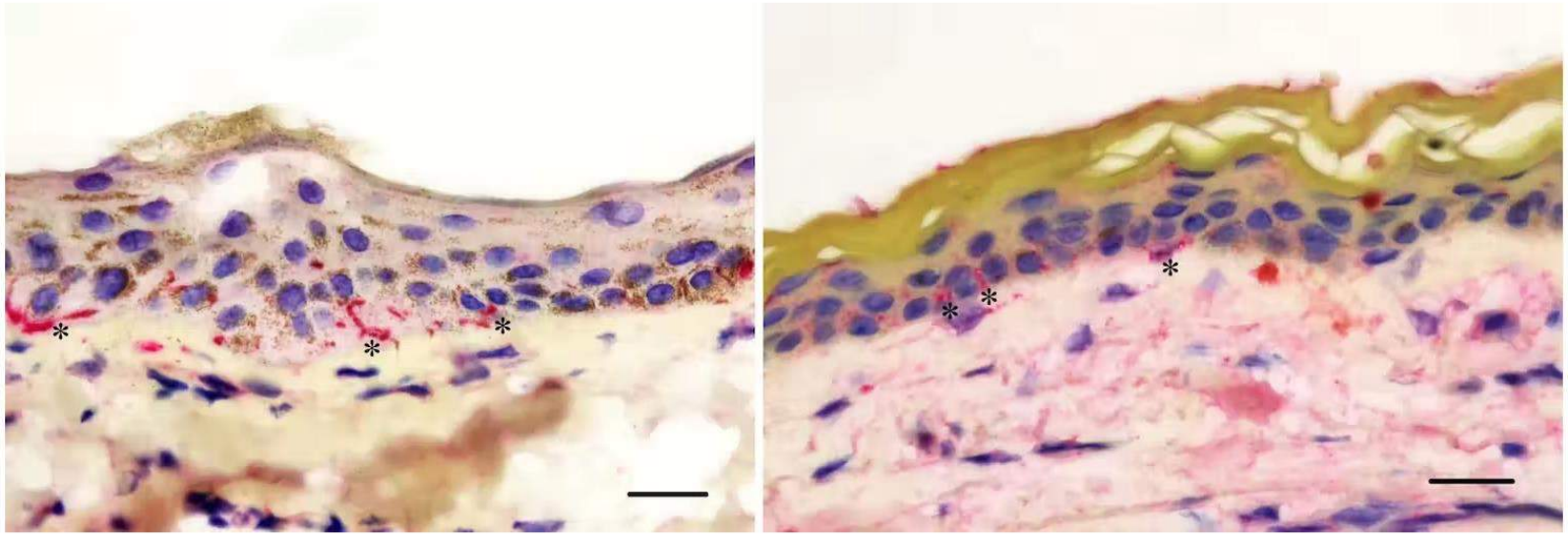



B
Forehand whip action
120
100
80
60
40
20
0
Force (N)
a b
a b
a b
a b c
a b c
1
2
3
4
5
6
Jockey
Left hand
Right hand


A
Backhand whip action
120
100
80
60
40
20
0
Force (N)
a
a b
c
a b c d
c d e
c d e
1
2
3
4
5
6
Jockey
Left hand
Right hand

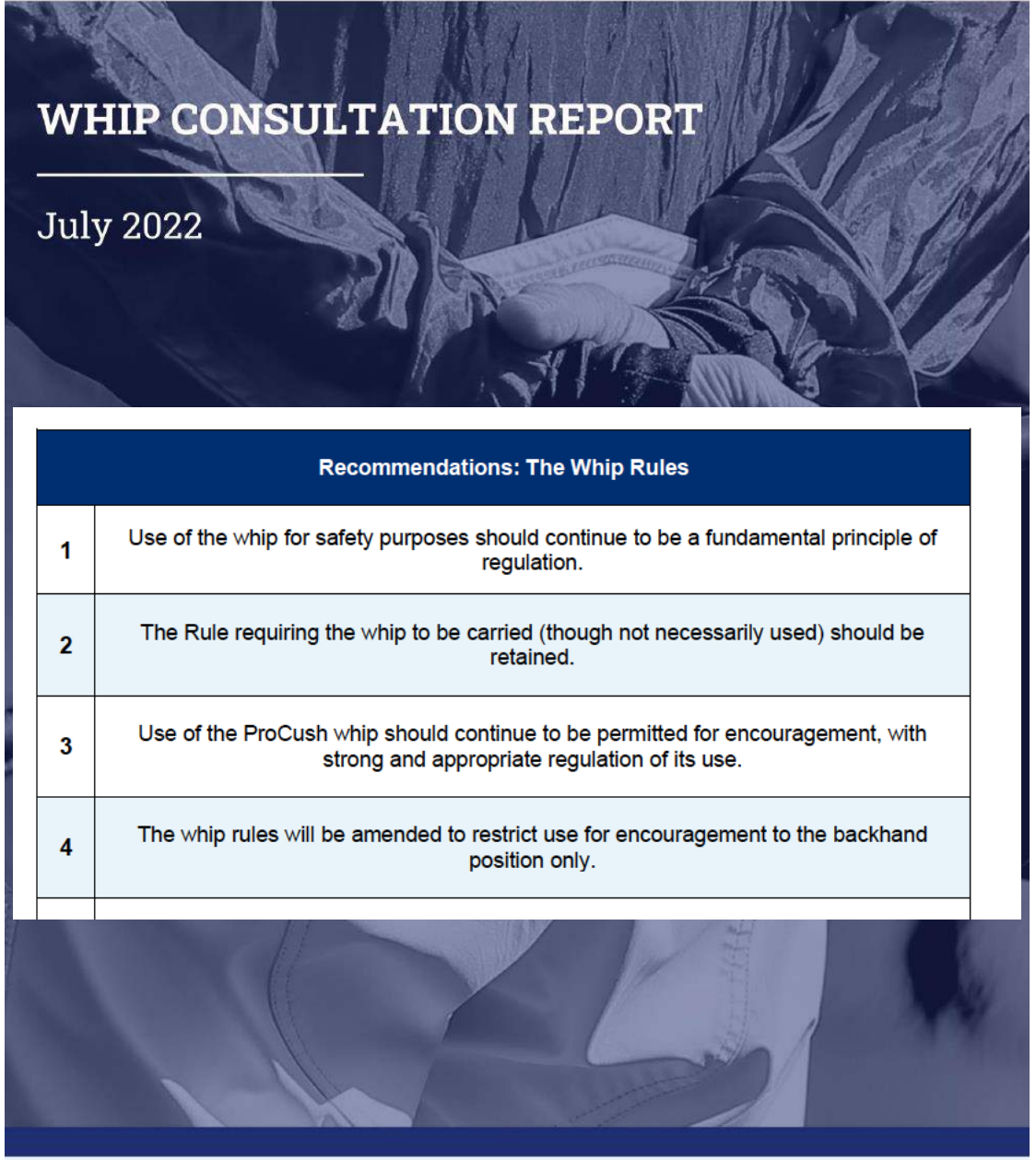
Horse skin is as sensitive as human skin

- Microscopic studies of skin from 10 deceased humans and 20 euthanased horses have recently been conducted to explore any differences between the species in their skin structure and nerve supply.



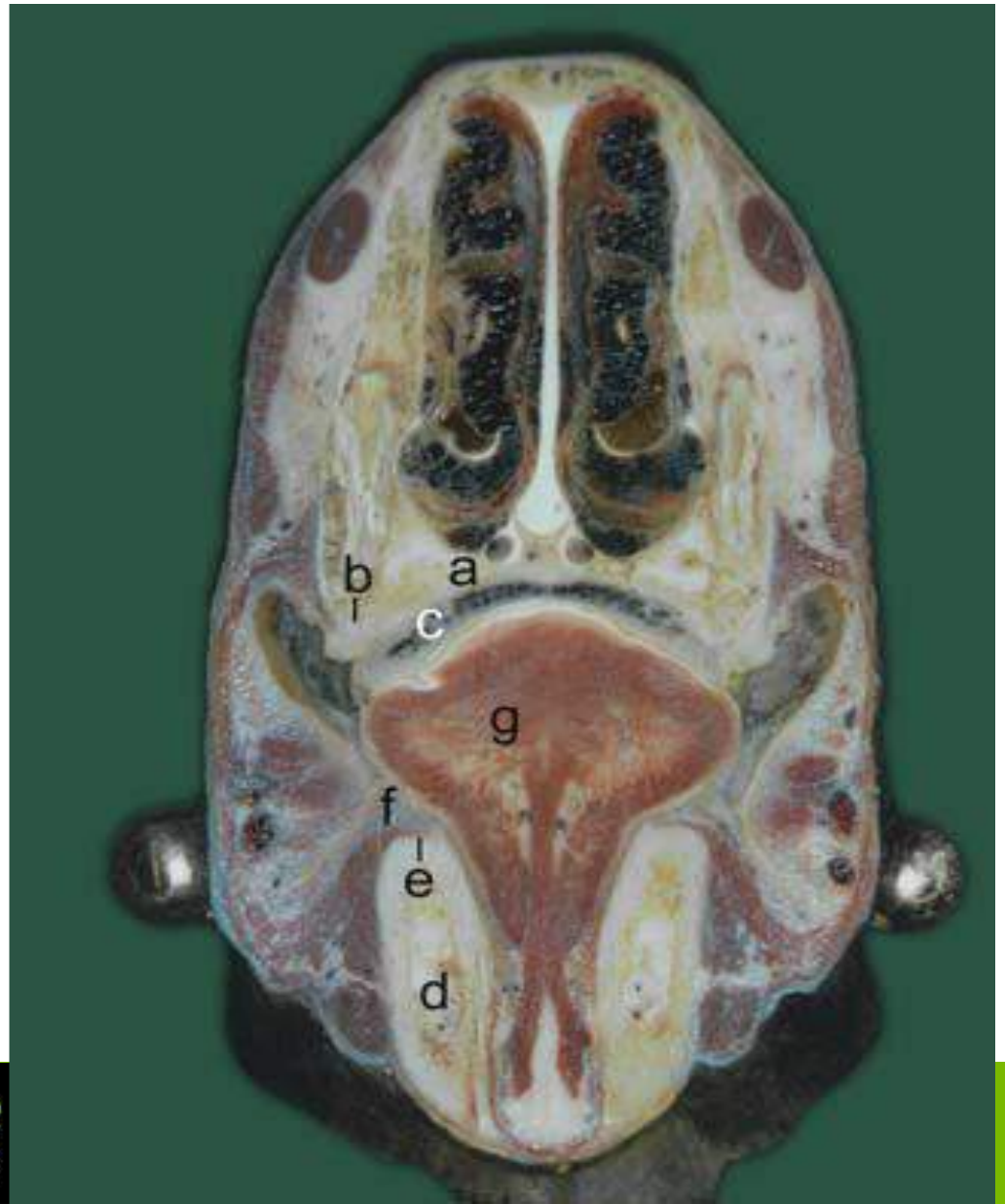
Microscopic cross-sections (400x magnification) of horse (left) and human skin. Images show the epidermis (top) and superficial dermis. Selected nerve endings are shown in red and marked with asterisks. Scale bars represent 20 micrometres. Tong et al. 2020, Author provided

- The results revealed no significant difference between humans and horses in the concentration of nerve endings in the outer, surface layer of skin.



Recommendations: The Whip Rules	
1	Use of the whip for safety purposes should continue to be a fundamental principle of regulation.
2	The Rule requiring the whip to be carried (though not necessarily used) should be retained.
3	Use of the ProCush whip should continue to be permitted for encouragement, with strong and appropriate regulation of its use.
4	The whip rules will be amended to restrict use for encouragement to the backhand position only.

Recommendations: The Whip Rules	
1	Use of the whip for safety purposes should continue to be a fundamental principle of regulation.
2	The Rule requiring the whip to be carried (though not necessarily used) should be retained.
3	Use of the ProCush whip should continue to be permitted for encouragement, with strong and appropriate regulation of its use.
4	Discarded on the 5th January 2023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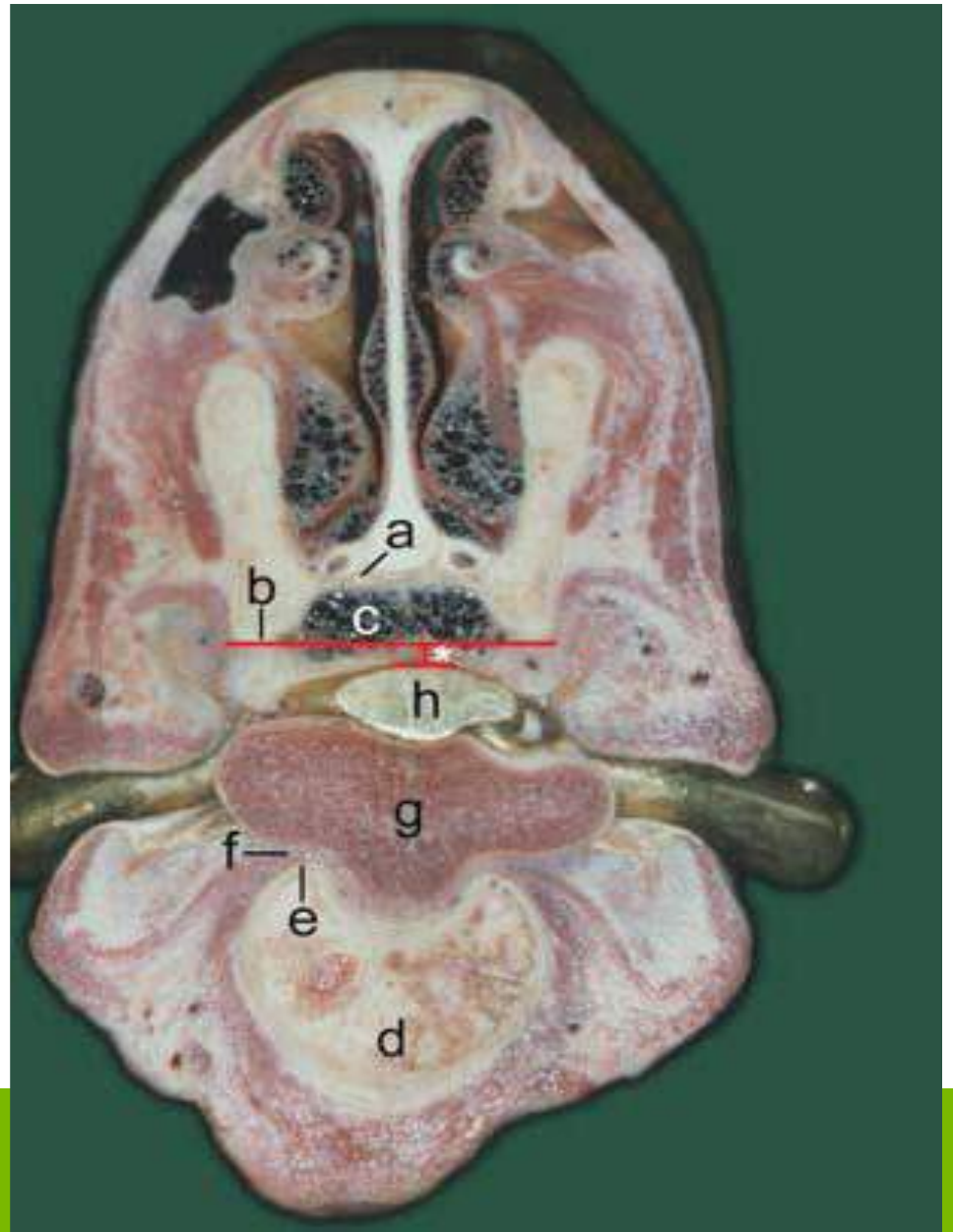
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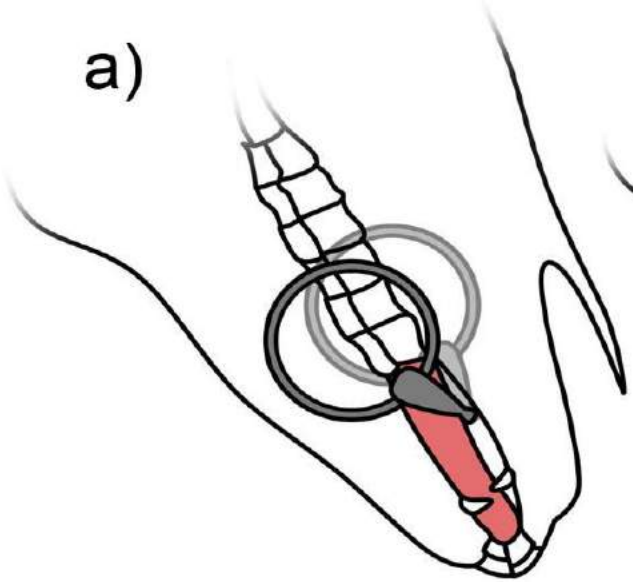
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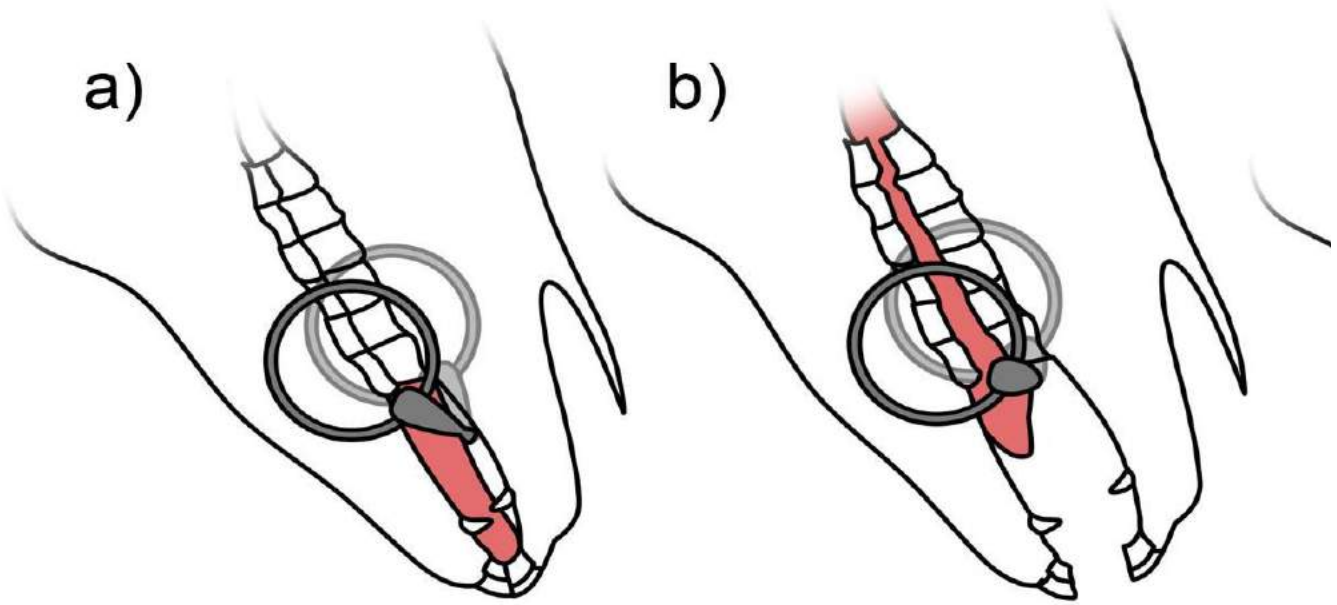
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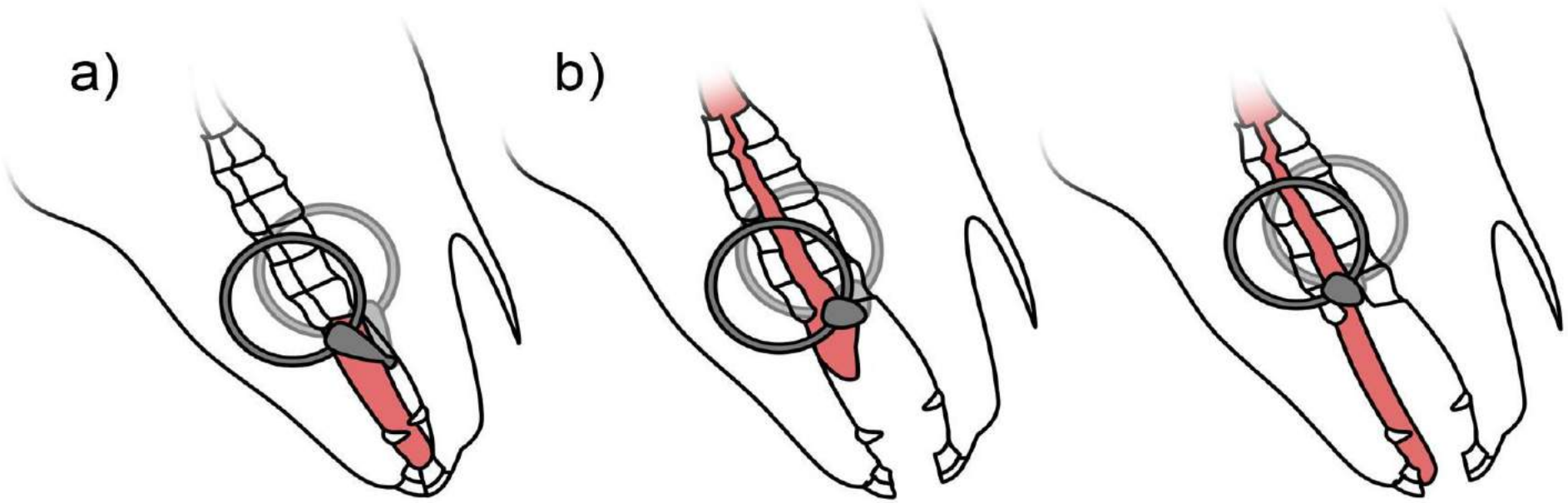
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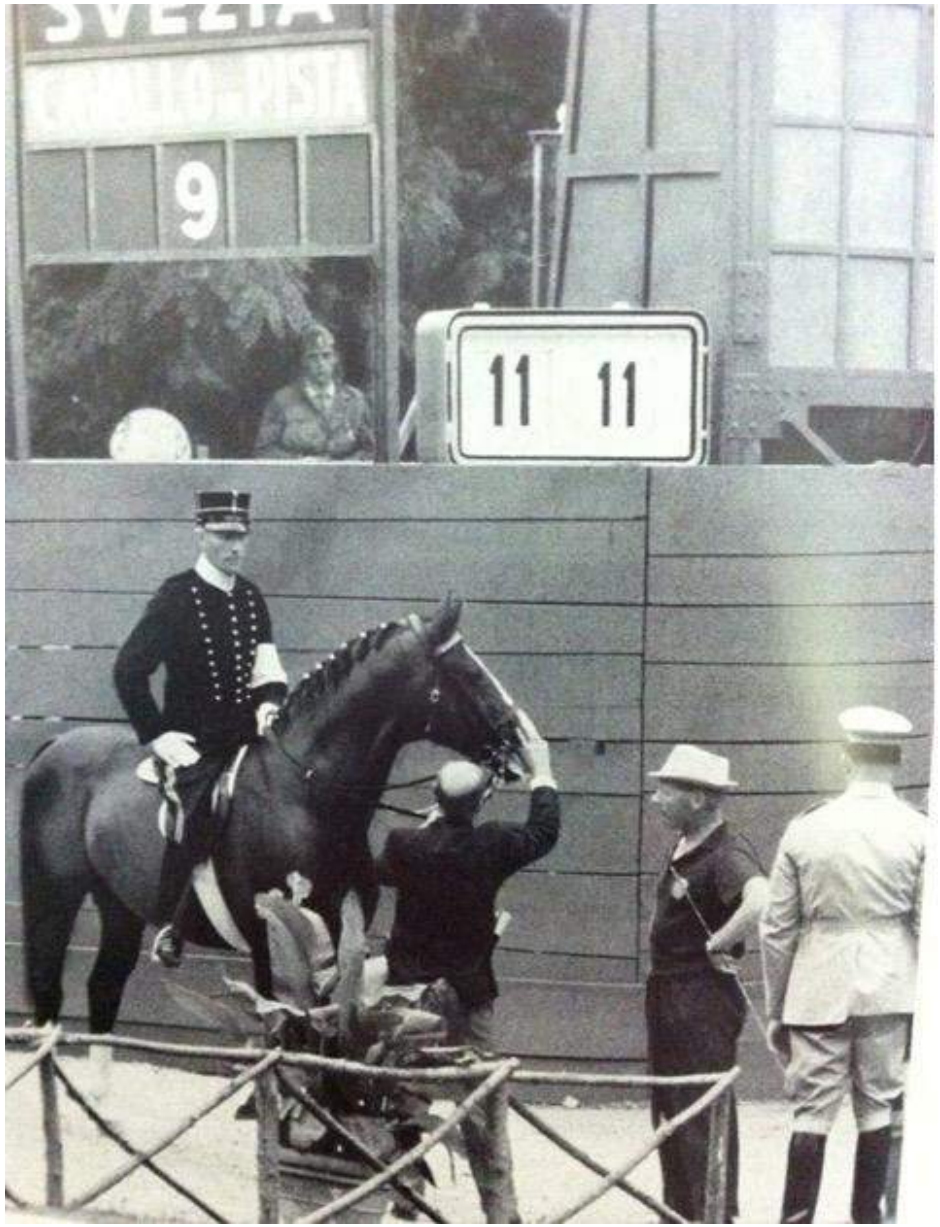
© Eurodressage.com



Circa 2011

FEI Director of Dressage, Mr Trond Asmyr, said,

"The FEI rules previously included guidelines which stated that it should be possible to put two fingers under the noseband. This was a very imprecise measurement, due to the different finger sizes of the persons who did the checks, and also how they were used. As a result, this sentence was removed."

Casey et al., (2013) reported pressures under the noseband with two fingers space.

Pressures ranged from 200 to 400 mm Hg…

ISES Taper Gauge

PLOS ONE

RESEARCH ARTICLE

Noseband Use in Equestrian Sports – An International Study

Orla Doherty[1]*, Vincent Casey[2☯], Paul McGreevy[3☯], Sean Arkins[1☯]

1 Department of Life Sciences, University of Limerick, Limerick, Ireland, **2** Department of Physics, University of Limerick, Limerick, Ireland, **3** Faculty of Veterinary Science, University of Sydney, New South Wales, Australia

☯ These authors contributed equally to this work.
* orladoherty@live.ie

OPEN ACCESS

Citation: Doherty O, Casey V, McGreevy P, Arkins S (2017) Noseband Use in Equestrian Sports – An International Study. PLoS ONE 12(1): e0169060. doi:10.1371/journal.pone.0169060

Editor: Ulrike Gertrud Munderloh, University of Minnesota, UNITED STATES

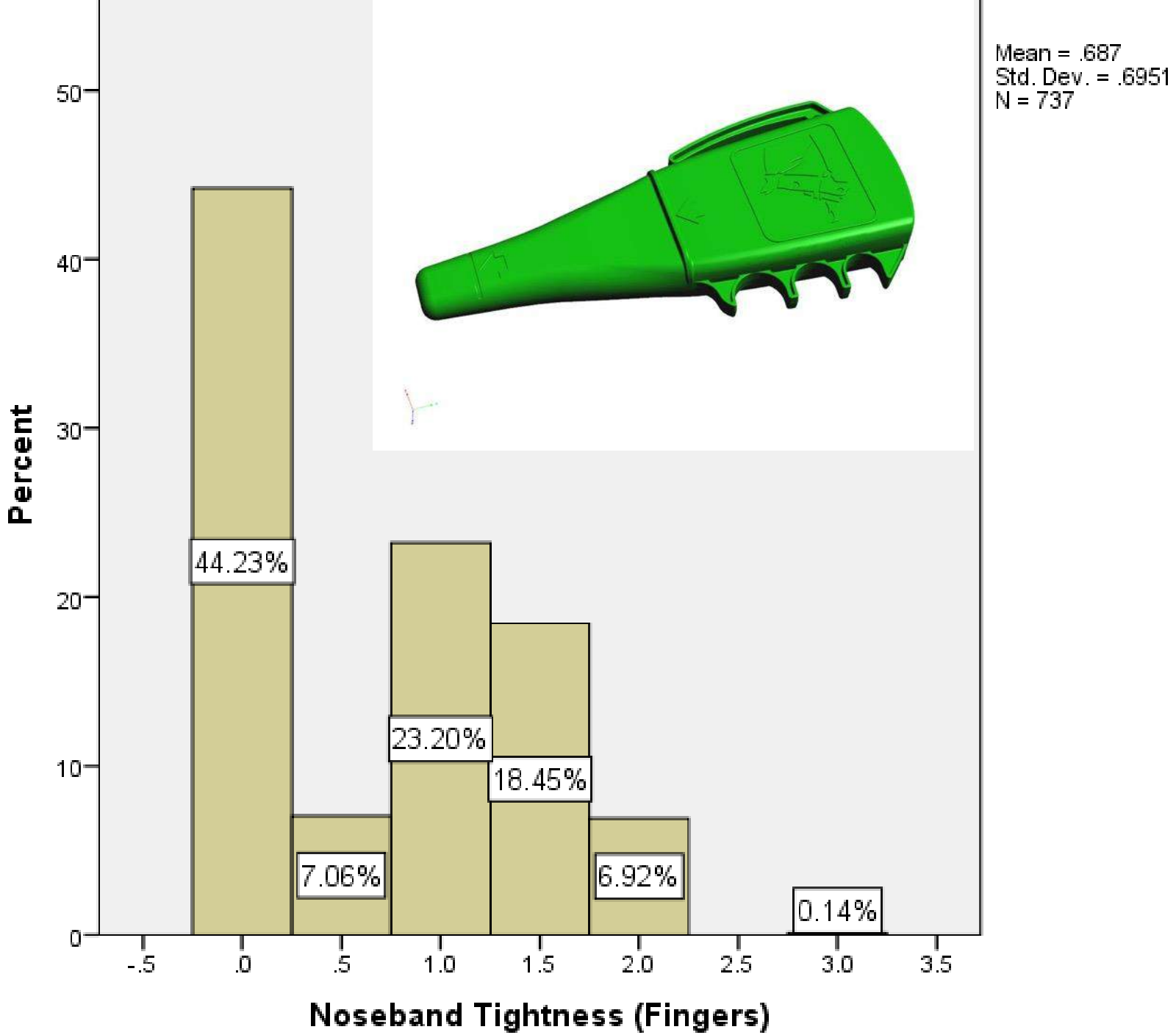
Received: October 12, 2016

Accepted: December 9, 2016

Published: January 3, 2017

Abstract

Nosebands are used by riders to prevent the horse from opening its mouth, to increase control and, in some cases, to comply with the competition rules. While equestrian texts traditionally recommend that two adult human fingers should be able to fit under a fastened noseband, noseband tightness levels are not, in general, regulated in competition. Possible detrimental consequences for the horse, of excessively tight nosebands, include discomfort, pain or tissue damage. The current study investigated noseband usage in equestrian competition. Data regarding noseband type, position, width and tightness were collected from 750 horses in eventing (n = 354), dressage (n = 334) and performance hunter (n = 62) competitions in Ireland, England and Belgium. Data were collected immediately before or after the performance. Using the ISES taper gauge as a guide, results were classified according to the number of 'fingers' that could fit under the noseband at the nasal planum, and assigned to six groups: greater than 2 fingers; 2 fingers; 1.5 fingers; 1 finger; 0.5 fingers; zero fingers. A calliper was used to measure noseband width and position relative to the facial crest. The data were not normally distributed so Kruskall-Wallis and Mann-Whitney tests were used. In all, 44% of horses fell into the zero fingers classification while only 7% were in the two fingers classification. Significant differences emerged between disciplines


Mean = .687
Std. Dev. = .6951
N = 737
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23.20%
18.45%
6.92%
0.14%
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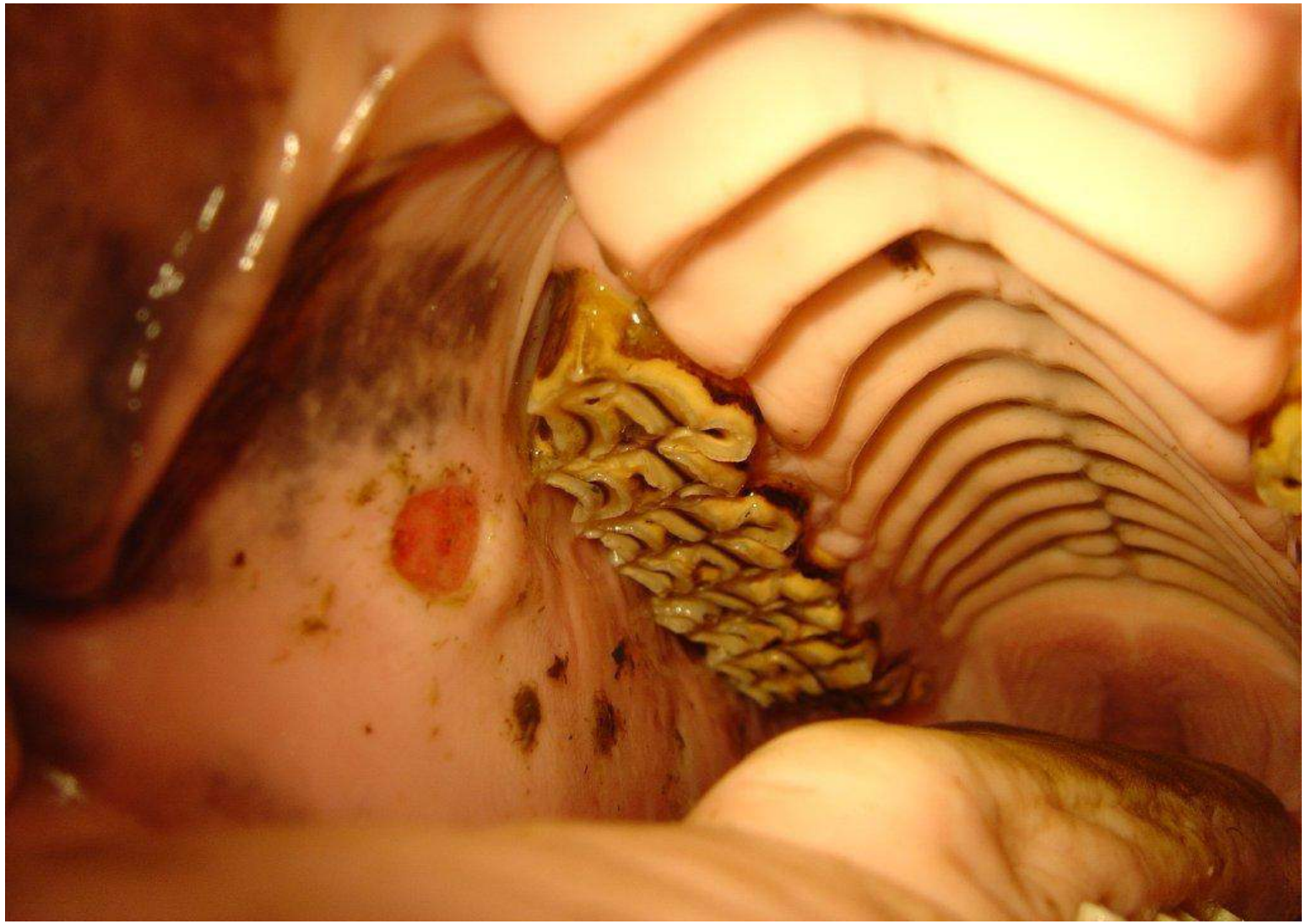
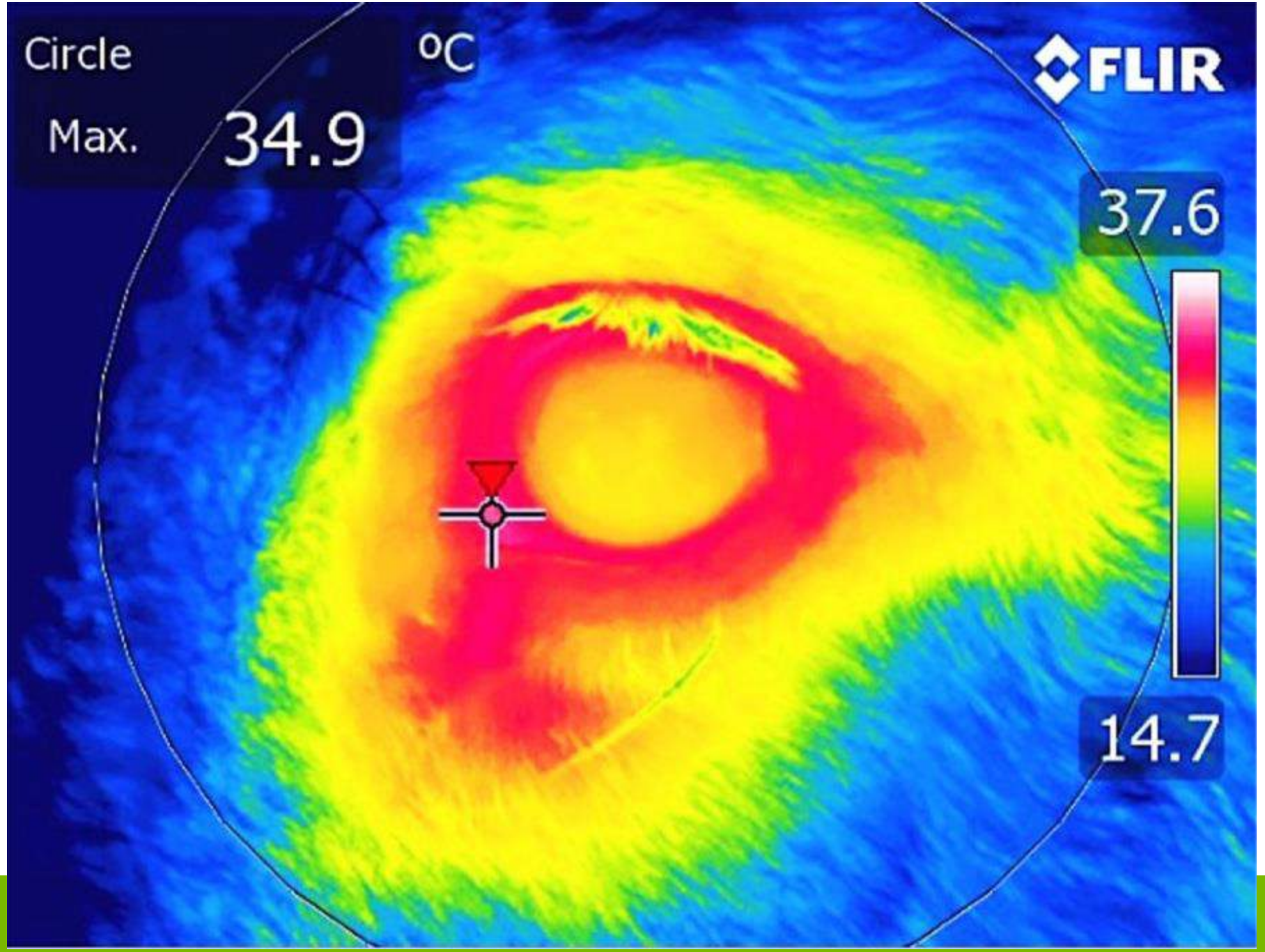
Noseband Tightness (Fingers)

Australian Noseband Study

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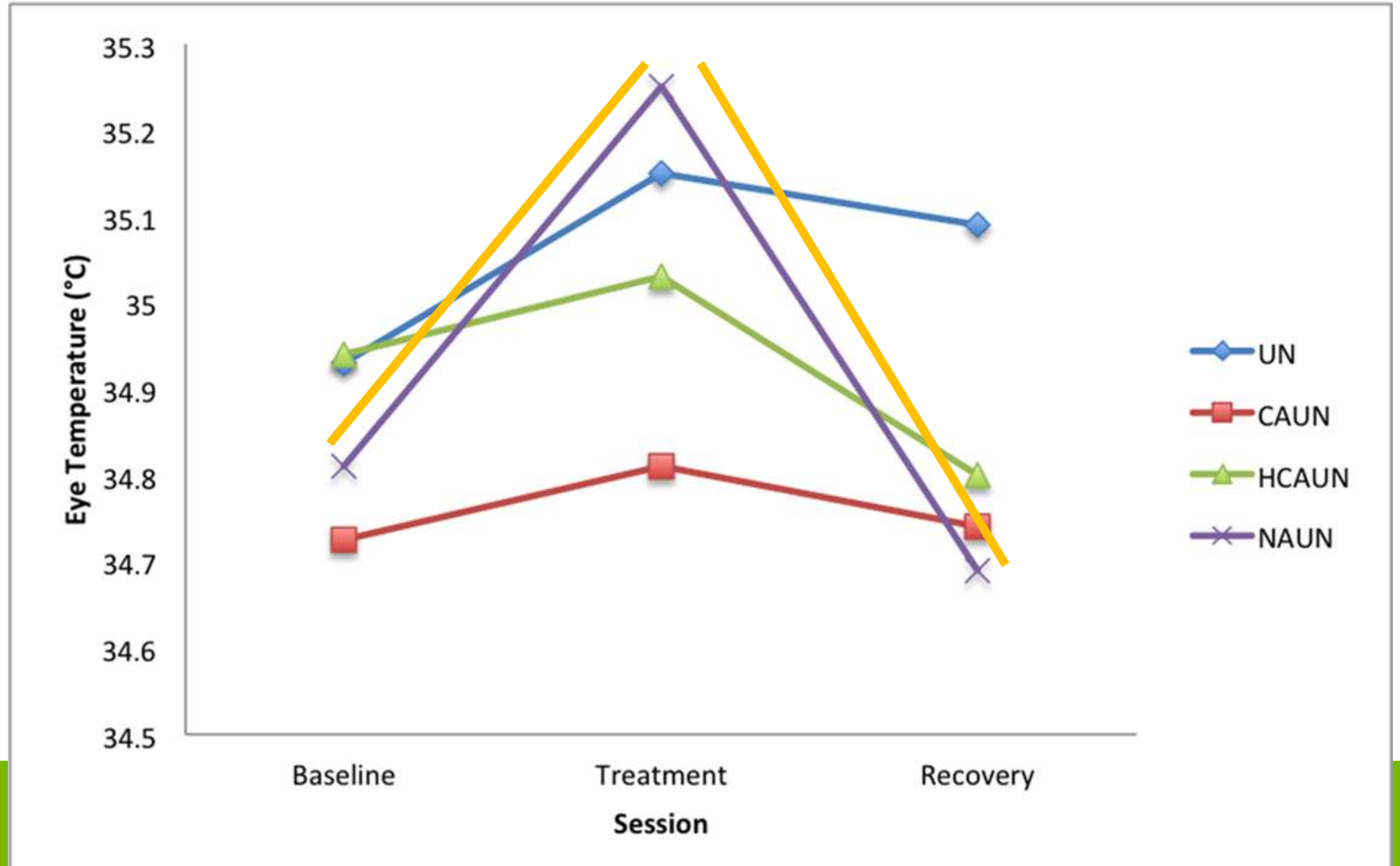


Equine Veterinary Journal

Equine Veterinary Journal ISSN 0425-1644
DOI: 10.1111/evj.12827

Lesions associated with the use of bits, nosebands, spurs and whips in Danish competition horses

M. ULDAHL† and H. M. CLAYTON‡*

†Vejle Hestepraksis, Vejle Oest, Denmark
‡Sport Horse Science, Mason, Michigan, USA.

*Correspondence email: daytonh@cvm.msu.edu; Received: 14.08.17; Accepted: 23.02.18

Summary

Background: Information is needed to guide sport administrators in formulating rules for equipment use in competitions.
Objectives: To seek associations between spurs, bits, nosebands and whips with injuries in horses during competitions in four equestrian sports.
Study design: Cross sectional study.
Methods: Post competition evaluations were performed in 3143 horse/rider combinations competing in Danish Equestrian Federation competitions in dressage, showjumping, eventing and endurance by trained evaluators who recorded the presence and type of spurs, bits, nosebands, and whips. Further evaluations recorded noseband tightness, the presence of hair or blood on spurs; hair loss, lesions or blood on the ribcage behind the girth; abrasions and/or blood at the commissures of the lips; and swelling, lesions or blood on the forequarters or hindquarters. Statistical analysis was performed to determine relationships between discipline (dressage, showjumping, eventing, endurance), level of competition (level 0–7), type/tightness of equipment, and incidence of injuries.
Results: The presence of hair (3.2% of horse/rider combinations) and blood (0.4% of horse/rider combinations) on spurs were highly associated. Longer spurs and lower competition levels were significantly associated with hair on the spurs and worn hair on the horse's ribcage. Oral lesions or blood were visible at the commissures of the lips in 9.2% of horses and increased with level of competition but did not differ between bit types or bitless bridles. Tighter cavesson nosebands increased the risk of oral lesions. However, the absence of a cavesson increased the risk of lesions at the commissures of the lips 2.39 times compared with the loosest noseband.
Main limitations: The rules of the equestrian federation did not permit a full intraoral examination. Selection of rider/horse combination was not random.
Conclusions: Lesions of the skin or mucosa at the commissures of the lips may be decreased by limiting noseband tightness and lesions on the chest wall may be decreased by limiting the length of spurs.

Keywords: horse; equestrian sport; tack; equipment; injury

Introduction

The Fédération Equestre Internationale (FEI) and national equestrian federations have rules to protect the health and welfare of horses during competitions. However, information is needed relating the use of different types of tack with the occurrence of injuries to guide the development of rules to protect the horse. Previous studies of noseband tightness found 44% of horses competing in dressage, eventing and hunter performance had very tight nosebands with significant differences between disciplines; nosebands were tightest on eventers and loosest on performance hunters [1]. Tight nosebands have been reported to enhance sensitivity to rein aids [2,3], but the effects of noseband type and tightness have not been associated with oral ulceration or other injuries. A Swedish study showed that riding horses with a bit and bridle was a high risk factor for the development of oral ulceration though ulcers were also present in unridden horses [4]. Bit-related oral lesions are common in Icelandic competition horses and, in this breed, bit type influences the location and severity of lesions [5]. Whips and spurs are artificial aids used during exercise to encourage the horse to increase speed, increase activity or move in a specific direction. In racehorses, however, whip use has not been shown to increase a horse's speed at the end of a race [6]. Excessive whip use may cause swelling, bruising or bleeding. Little scientific information is available regarding the use of spurs but horses have been eliminated from competition due to the presence of blood on the spurs or on the horse's ribcage in the area where spurs are used.

The purpose of this study was to record the use and type of spurs, bits, nosebands and whips, and to measure noseband tightness in horses competing in events sanctioned by the Danish Equestrian Federation, and to relate these findings with the frequency of lesions associated with their use. In addition, relationships were sought between type of injury with the equestrian discipline (dressage, showjumping, eventing, endurance) and level of competition (0–7) according to the Danish Equestrian Federation official classification system. The objectives were to provide data describing current use and adjustment of specific types of equipment and their association with externally visible signs of injury. The findings will be used for educational purposes and, ultimately, to formulate rules that will enhance the welfare and durability of equine athletes.

Materials and methods

Study population

A total of 3143 horse/rider combinations were evaluated during Danish Equestrian Federation competitions between February 2014 and December 2015 representing the disciplines of dressage (1383), showjumping (1454), eventing (113) and endurance (193). The number of horses evaluated was proportional to the number of horses registered per discipline.

Study design

A group of experienced National Technical Delegates (stewards) were trained and tested in the methodology for examination of horses and equipment, and became licensed as data collectors for this project. Training included theory and practical sessions in the standardised examination protocol and use of the multi-tool device, which was custom-designed and manufactured for this study. It has calipers on one end to measure spur length, the other end is shaped to slide between the nasal bones and the noseband to measure tightness (Fig 1). Tightness was converted to a linear measurement (<2, 2–3, >3 cm) indicating the amount by which the noseband strap should be tightened to make it lie flat against

74

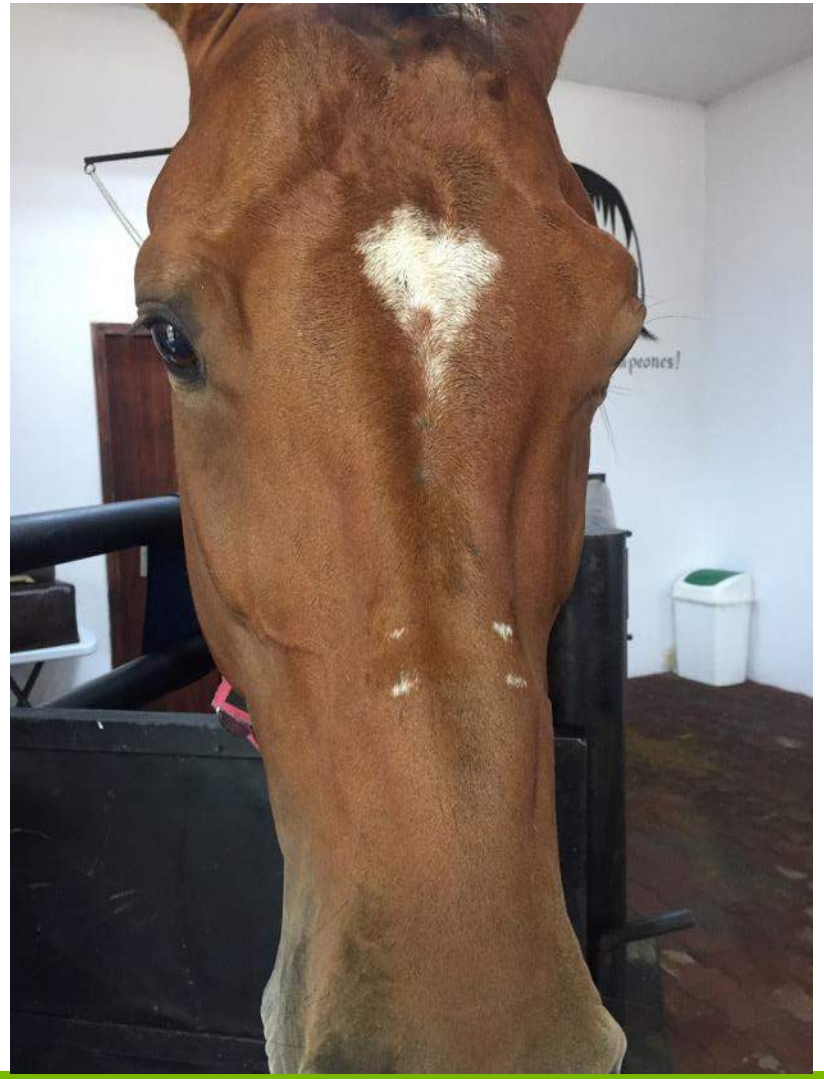
Danish Noseband Study

- Post-competition evaluations were performed in 3143 horse/rider combinations competing in Danish Equestrian Federation competitions in dressage, showjumping, eventing and endurance

- Oral lesions or blood were visible at the commissures of the lips in 9.2% of horses ...
- and increased with level of competition.

- Tighter nosebands increased the risk of oral lesions.

Mexican noseband study



Mature cavalry horses (n = 144)

77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Specialist veterinary radiologists reported bony changes in 33.3% of horses

79

Denmark - April 2018

Horses and People Magazine

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Danish Set a Limit to Noseband Tightness

April 2018 by **Cristina Wilkins, Editor-in-Chief, Horses and People Magazine**

A study led by veterinarian Mette Uldahl during 2014 and 2015, which examined 3,143 Danish horses after their competition performance found almost 290 had lesions or blood on the commisures of the lips. The risk of mouth lesions increased the tighter the noseband was fitted.

Like 1.9K Tweet Share 89

The findings have been accepted for publication in Equine Veterinary Journal, and have resulted in the Danish Riding Federation establishing a limit for

New Zealand - July 2018

Equine Veterinary Education

EQUINE VETERINARY EDUCATION
Equine vet. Educ. (2020) •• (••) ••-••
doi: 10.1111/eve.13395

Original Article

Gait abnormalities and ridden horse behaviour in a convenience sample of the United Kingdom ridden sports horse and leisure horse population

S. Dyson†*, J. Routh‡, A. Bondi§ and D. Pollard¶

†The Cottage, Market Weston, Diss; ‡Centre for Equine Studies, Animal Health Trust, Newmarket, Suffolk; §Firbeck House, Worksop, Derbyshire; and ¶Epidemiology and Disease Surveillance Department, Centre for Preventive Medicine, Animal Health Trust, Newmarket, Suffolk, UK
*Corresponding author email: sue.dyson@aol.com

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D. Pollard's present address: 28 Stable Close Colchester, Essex, CO3 0UG, UK

Keywords: horse; saddle; noseband; lameness; musculoskeletal pain; Ridden Horse Pain Ethogram

Summary

The objectives of this study were to compare horses' gaits in hand and when ridden; to assess static and dynamic saddle fit for each horse and rider; to apply the Ridden Horse Pain Ethogram (RHpE) and relate the findings to gait abnormalities consistent with musculoskeletal pain, rider position and balance and saddle fit; and to document noseband use and its relationship with mouth opening during ridden exercise. Data were acquired prospectively from a convenience sample of horses believed by their owners to be working comfortably. All assessments were subjective. Gait in hand and when ridden were evaluated independently, by two assessors, and compared using McNemar's test. Static tack fit and noseband type were recorded. Movement of the saddle during ridden exercise, rider position, balance and size relative to the saddle was documented. RHpE scores were based on assessment of video recordings. Multivariable Poisson regression analysis was used to determine factors which influenced the RHpE scores. Of 148 horses, 28.4% were lame in hand, whereas 62.2% were lame ridden (P<0.001). Sixty per cent of horses showed gait abnormalities in canter. The median RHpE score was 8/24 (interquartile range 5, 9; range 0, 15). There was a positive association between lameness and the RHpE score (P<0.001). Riding School horses had higher RHpE scores compared with General Purpose horses (P = 0.001). Saddles with tight tree points (P = 0.001) and riders seated at the back of the saddle rather than the middle (P = 0.001) were associated with higher RHpE scores. Horses wearing crank cavesson compared with cavesson nosebands had higher RHpE scores (P = 0.006). There was no difference in mouth opening, as defined by the RHpE, in horses with a noseband with the potential to restrict mouth opening, compared with a correctly fitted cavesson noseband, or no noseband. It was concluded that lameness or gait abnormalities in canter may be missed unless horses are assessed ridden.

Marqués *et al.* 2014; Dyson and Greve 2016), but there has been no large-scale comparative study. It is becoming increasingly evident that there is a lack of recognition of lameness and other pain-related gait alterations by riders and trainers in the sports horse population, with variable estimates of 47–69% of horses experiencing musculoskeletal pain (Greve and Dyson 2014; Marqués *et al.* 2014; Dyson and Greve 2016; Pfau *et al.* 2016; Rhodin *et al.* 2016; Wilson *et al.* 2016; Dittmann *et al.* 2020). A Ridden Horse Pain Ethogram (RHpE) has been developed to help identify horses with musculoskeletal pain (Dyson *et al.* 2018a). Further evaluation of a broad cross section of sports horses would potentially help to demonstrate the usefulness of this tool. The prevalence of ill-fitting saddles was reported, and the importance of correct saddle fit for equine musculoskeletal health was highlighted by Greve and Dyson (2014, 2015a); however, this was restricted to saddle fit for the horse and not the rider. Correct saddle fit for the rider is considered important both for optimal force distribution and enabling the rider to ride in balance (Dyson *et al.* 2019; Bondi *et al.* 2020; Roost *et al.* 2020). There has been considerable debate about the use, design and fit of nosebands, the possible discomfort imposed by nosebands and the relationship between mouth opening and nosebands (Fenner *et al.* 2016; Doherty *et al.* 2017; Uldahl and Clayton 2019). However, there has been no large-scale study relating noseband use to oral behaviour.

The objectives of this study were to compare horses' gaits in hand and when ridden; to assess static and dynamic saddle fit for each horse and each rider; to apply the RHpE and relate the findings to gait abnormalities consistent with musculoskeletal pain, rider position and balance and saddle fit; and to document noseband use and its relationship with mouth opening during ridden exercise.

Materials and methods

2020

62.2% of horses were revealed to be lame

Journal of Veterinary Behavior 54 (2022) 54–61

Contents lists available at ScienceDirect

Journal of Veterinary Behavior

journal homepage: www.journalvetbehavior.com

A review of The Ridden Horse pain Ethogram and its potential to improve ridden horse welfare

Jan Ladewig[a,*], Andrew N. McLean[b], Cristina L. Wilkins[c], Kate Fenner[d], Janne W. Christensen[e], Paul D. McGreevy[f]


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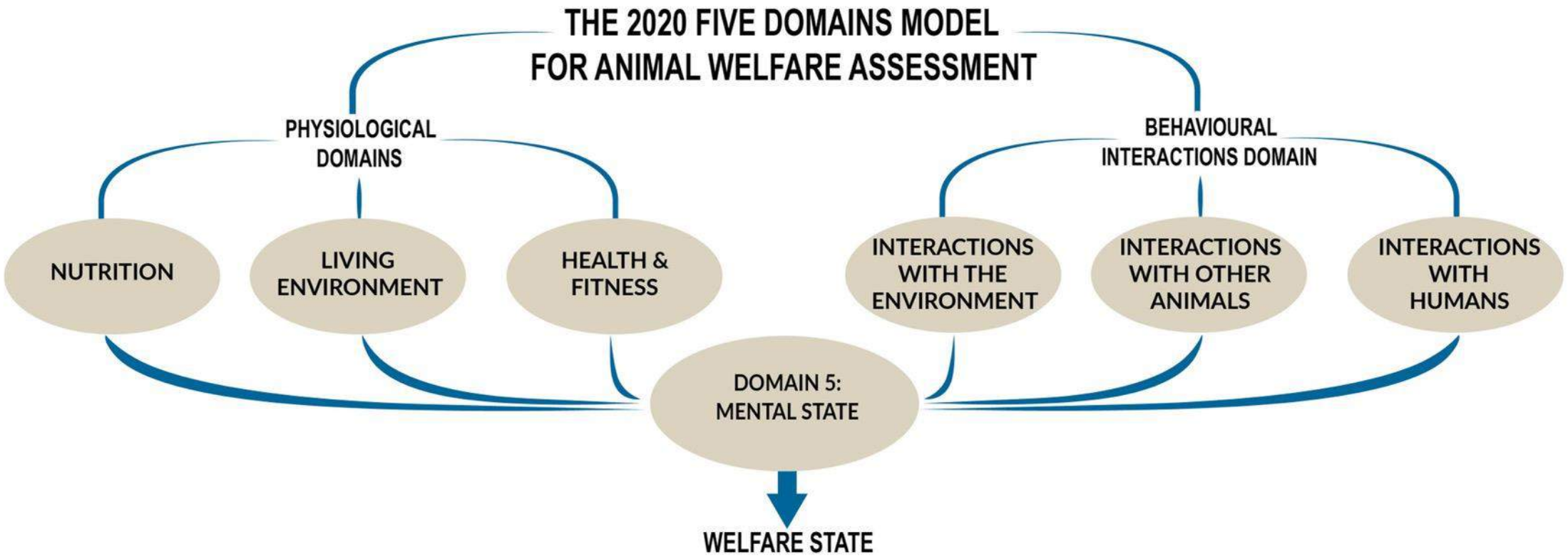
5 Domains


THE 2020 FIVE DOMAINS MODEL
FOR ANIMAL WELFARE ASSESSMENT
PHYSIOLOGICAL DOMAINS
BEHAVIOURAL INTERACTIONS DOMAIN
NUTRITION
LIVING ENVIRONMENT
HEALTH & FITNESS
INTERACTIONS WITH THE ENVIRONMENT
INTERACTIONS WITH OTHER ANIMALS
INTERACTIONS WITH HUMANS
DOMAIN 5: MENTAL STATE
WELFARE STATE

animals

MDPI

Review

The 2020 Five Domains Model: Including Human–Animal Interactions in Assessments of Animal Welfare

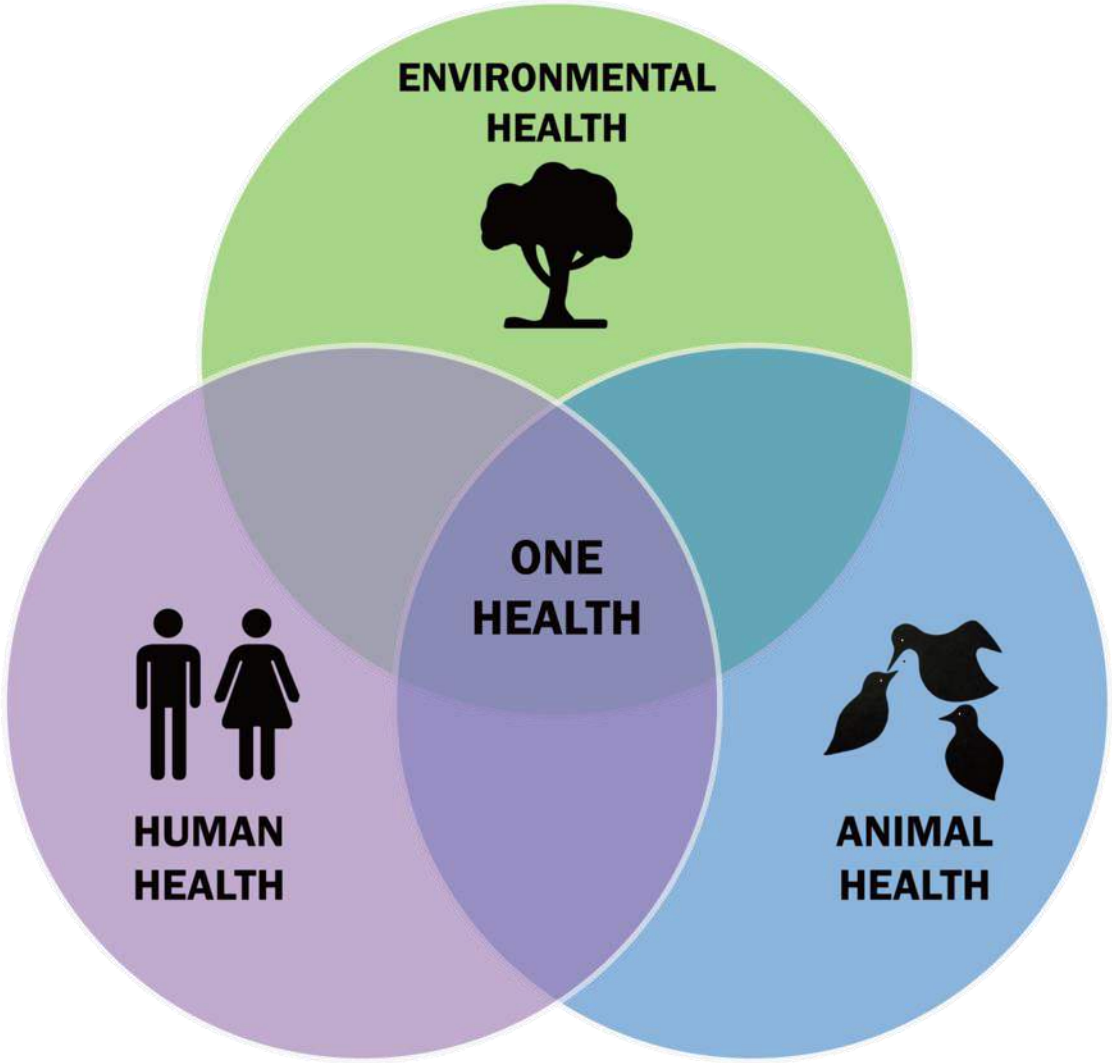
David J. Mellor [1,*], Ngaio J. Beausoleil [1], Katherine E. Littlewood [1], Andrew N. McLean [2], Paul D. McGreevy [3], Bidda Jones [3,4] and Cristina Wilkins [5]

1 Animal Welfare Science and Bioethics Centre, School of Veterinary Science, Massey University, 4442 Palmerston North, New Zealand; n.j.beausoleil@massey.ac.nz (N.J.B.); k.littlewood@massey.ac.nz (K.E.L.)
2 Equitation Science International, 3 Wonderland Ave, Tuerong, VIC 3915, Australia; andrewmclean@esi-education.com
3 Sydney School of Veterinary Science, Faculty of Science, The University of Sydney, Sydney, NSW 2006, Australia; paul.mcgreevy@sydney.edu.au (P.D.M.); bjones@rspca.org.au (B.J.)
4 RSPCA Australia, P.O. Box 265, Deakin West, ACT 2600, Australia
5 Saddletops Pty Ltd., P.O. Box 557, Gatton, QLD 4343, Australia; cristinaluz@horsesandpeople.com.au
* Correspondence: d.j.mellor@massey.ac.nz

Received: 28 September 2020; Accepted: 9 October 2020; Published: 14 October 2020

check for updates

ONE HEALTH


ENVIRONMENTAL HEALTH
ONE HEALTH
HUMAN HEALTH
ANIMAL HEALTH

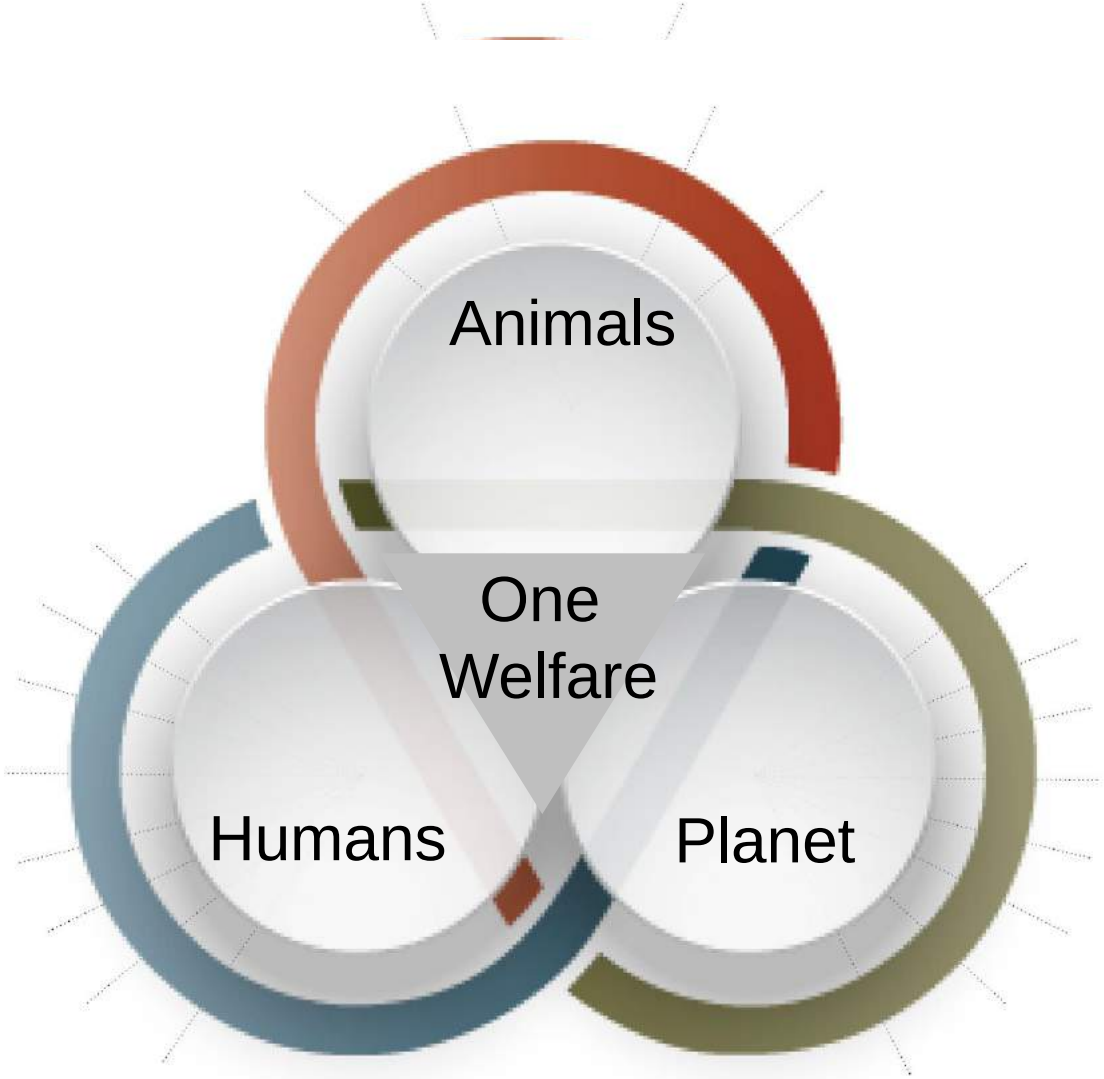
One Welfare

- A triple bottom line

Good health does not guarantee good welfare

Our definition of animal welfare

According to the Terrestrial Code, animal welfare means 'the physical and mental state of an animal in relation to the conditions in which it lives and dies.'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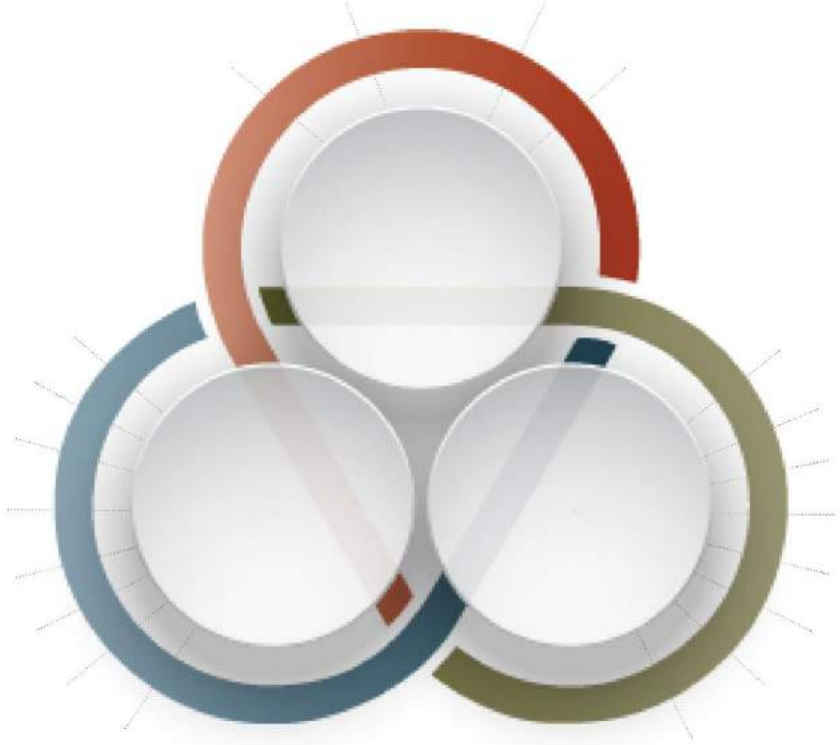
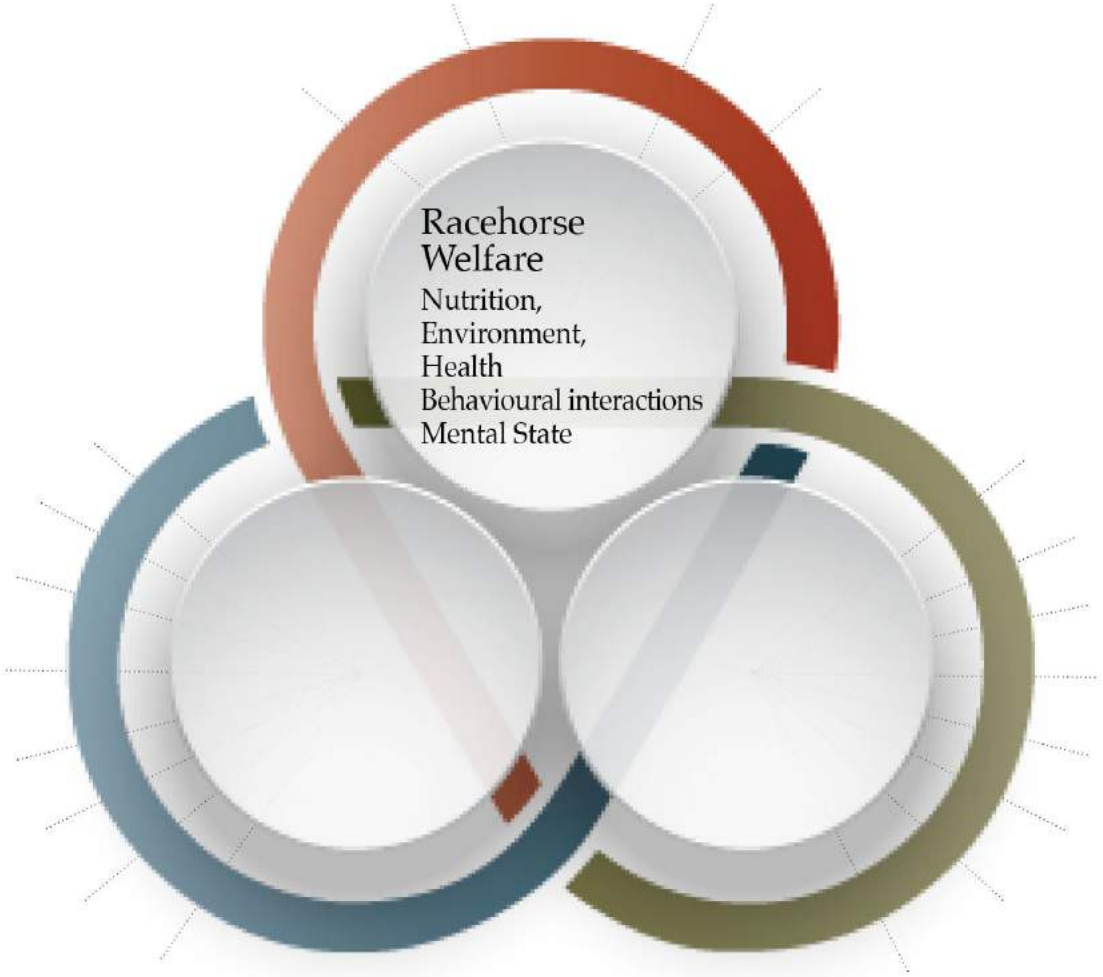
Welfare
Humans
Planet

Performance animals



Enhanced One Welfare Model applied to the Thoroughbred Breeding and Racing Industry



Enhanced One Welfare Model applied to the Thoroughbred Breeding and Racing Industry

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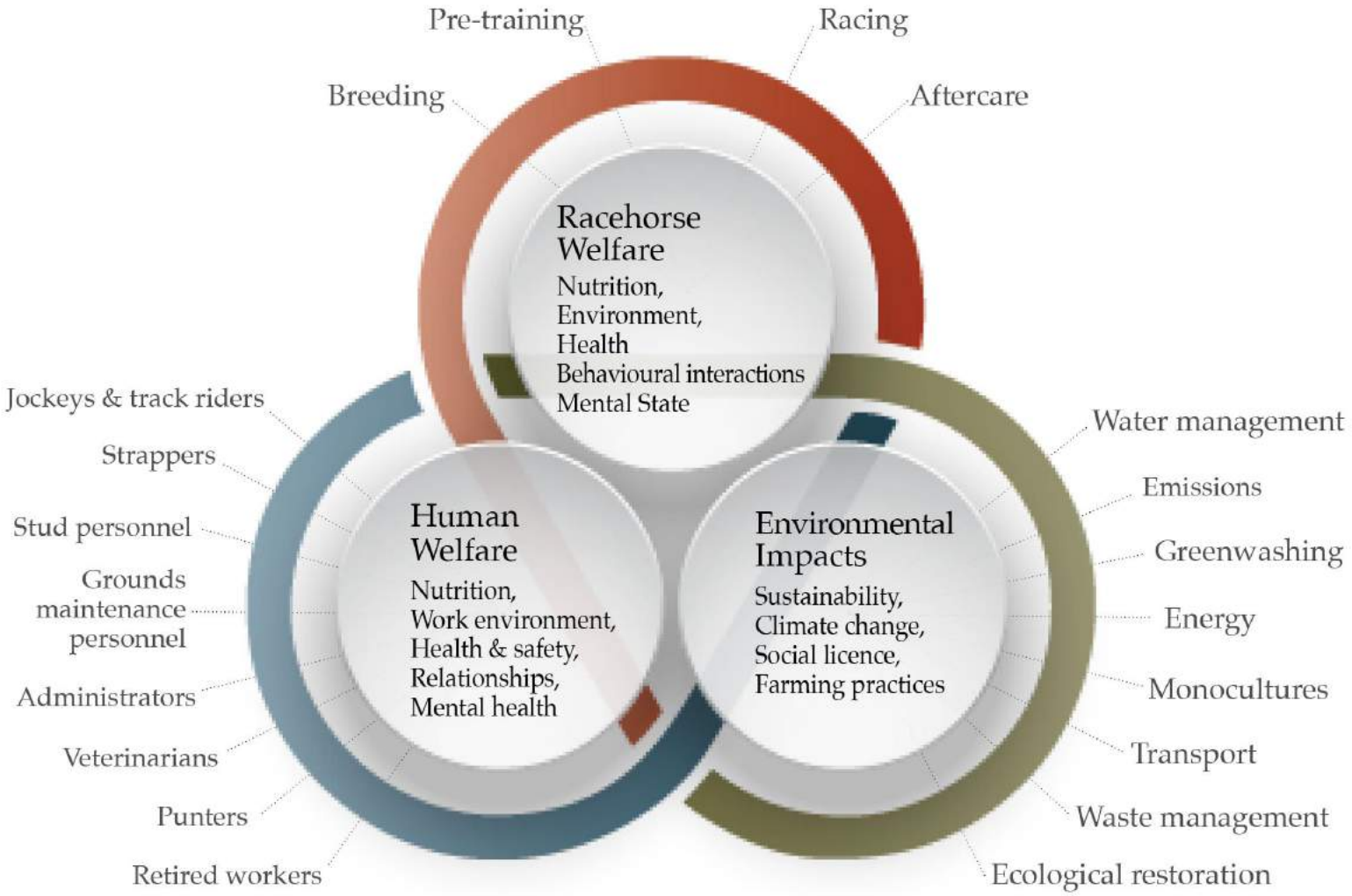
Enhanced One Welfare Model applied to the Thoroughbred Breeding and Racing Industry



Enhanced One Welfare Model applied to the Thoroughbred Breeding and Racing Industry

ONE WELFARE

- **…because we care about much more than health alone.**
- It sits alongside its older sibling, One Health, but delivers quite different outcomes and should not be seen as a competitor.
- It is fundamental to sustainability.

Australian national guidelines on the welfare of horses

- There are still none

But in good news!

2022

WorldHorseWelfare

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- From a welfare perspective, there is no doubt that the whip is an aversive instrument that may cause pain and/or fear. In racing, the whip is also typically not used in a way that is compatible with the growing evidence of how horses learn.
- Ethically, we do not believe that use of the whip to make horses run faster is justified because the horse does not benefit – and indeed may suffer harm – from this use. The purpose of its use is coercive, and this undermines the concept of partnership between horse and human which is the foundation of ethical horse sport.

At the same time, we have not seen any convincing evidence as to why it is important to retain the use of the whip for 'encouragement'. The research available provides no proof that use of the whip makes horses run faster or stops them from slowing down.

December 2022

Policy

Whip use must not be used to influence the result of a competitive event.

Technology

- Social media
- Video cameras
- Thermographic cameras
- Rein tension meters


Judges struggle
to detect “lightness”.

Ipos Rein Sensors

SKU: 0001

€659.00

Color: Black

Quantity

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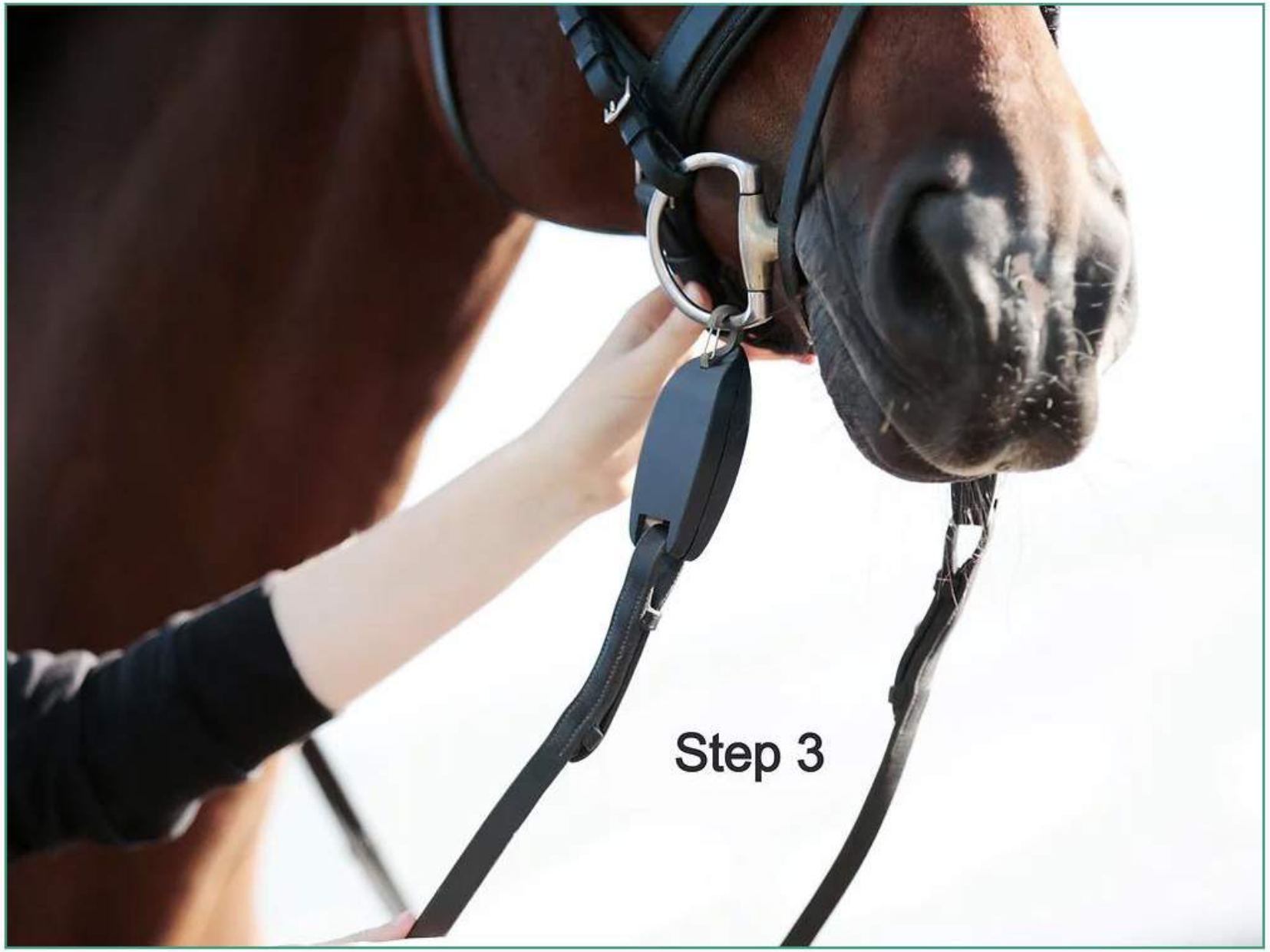
Add to Cart


Step 3

“It takes two to pull”

animals

MDPI

Article

Behavioural Evaluation of a Leash Tension Meter Which Measures Pull Direction and Force during Human–Dog On-Leash Walks

Hao-Yu Shih [1,*], Fillipe Georgiou [2], Robert A. Curtis [3], Mandy B. A. Paterson [1,4] and Clive J. C. Phillips [1]

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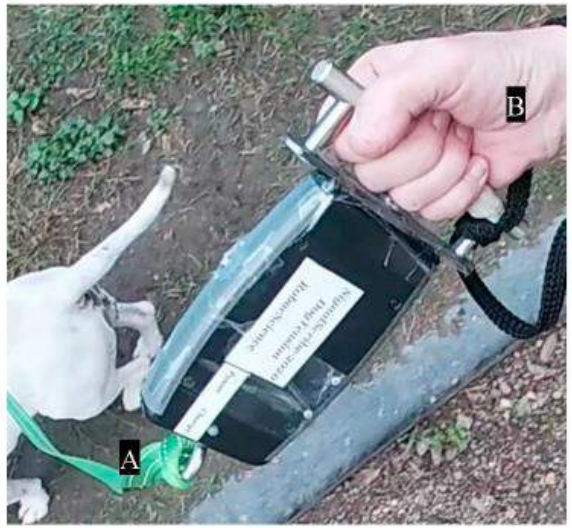
2 School of Mathematical and Physical Sciences, University of Newcastle, University Drive, Callaghan, NSW 2308, Australia; fillipegeorgiou@hotmail.com
3 RobacScience Ltd., Wentworth Falls, NSW 2782, Australia; robac@ieee.org
4 Royal Society for the Prevention of Cruelty to Animals Queensland, Brisbane, QLD 4076, Australia
* Correspondence: haoyu.shih@uq.net.au

Received: 7 July 2020; Accepted: 6 August 2020; Published: 10 August 2020

check for updates

Simple Summary: A tense leash when walking a dog is a critical animal welfare issue as it potentially causes damage to a dog’s neck and eyes. This article introduces an innovative canine leash tension meter, for dogs walked on-leash, considering effects of dog age, size–weight, and dogs’ behaviour during walks, to validate the meter. It is confirmed that this device is a robust and valid approach in exploring interactions between dogs and humans when walking on a leash, by real-time measuring the leash tension and differentiating who, dog or human, is pulling the leash.


C
A
B


B
A

Topics

- Origins of concern for horses
- 20 years ago
- Performance vs welfare
- Veterinary leadership on welfare
- Equitation science
- Social license to operate
- Whips & nosebands
- Five Freedoms & Five Domains
- One Welfare
- Australian national guidelines on the welfare of horses
- 20 years from now: horses holding mirrors up to us

Paris 2024

French Parliament Calls for Horse Welfare Overhaul with 46 recommendations, including:

- noseband-checks with the ISES taper gauge


SECOND STAGE OF CRUELTY.
The generous Steed in hoary Age
Subdu'd by Labour ties,
And mourns a cruel Master's rage,
While Nature Strength denies.
The tender Lamb o'er drove and faint,
Amidst expiring Throws;
Bleats forth its innocent complaint
And dies beneath the Blows.
Inhuman Wretch! say whence proceeds
This coward Cruelty?
What Infant springs from barbrous deeds?
What Joy from Misery?
Designed by W. Hogarth.
Published according to Act of Parliament Feb 1751.

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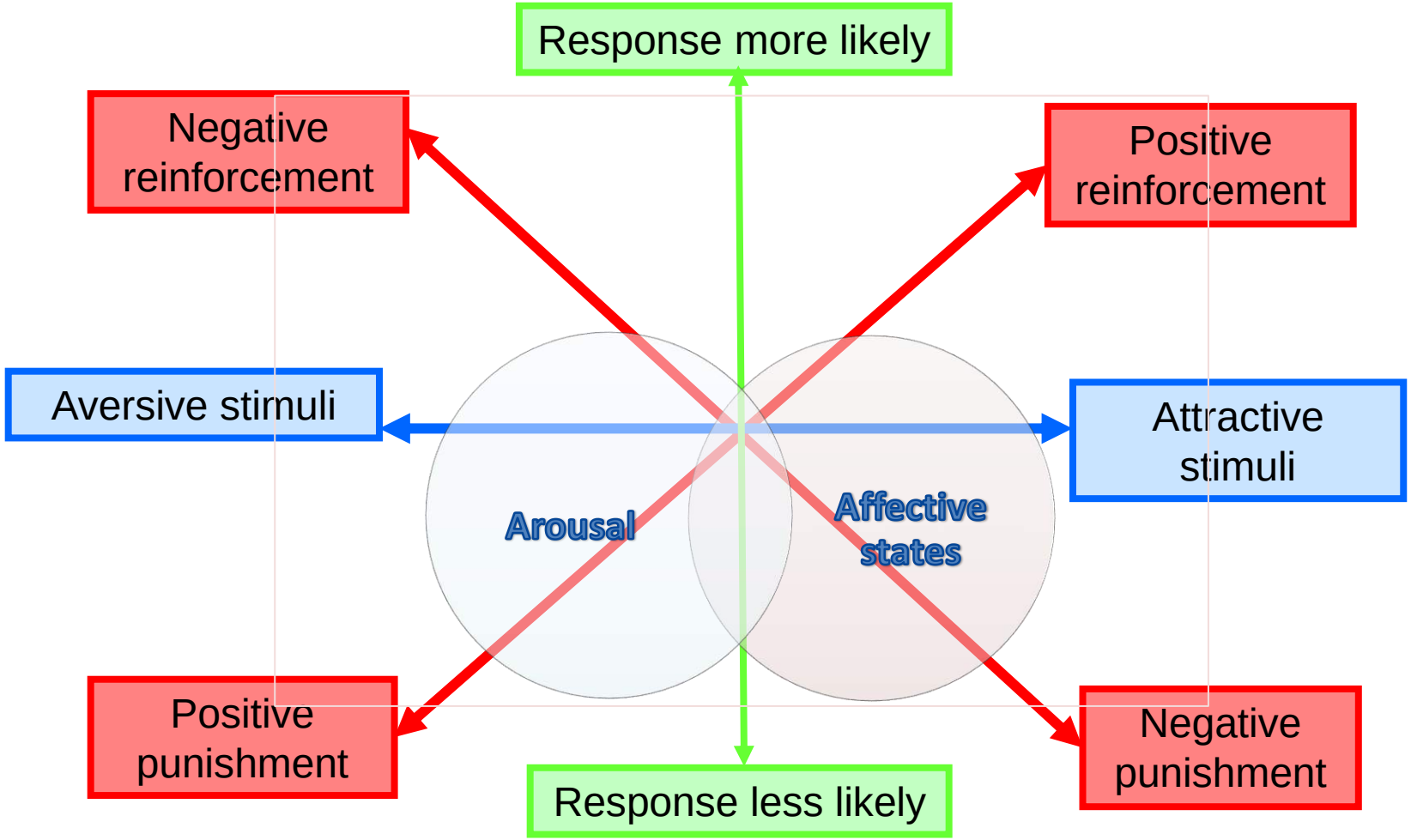
Response more likely
Negative reinforcement
Positive reinforcement
Aversive stimuli
Attractive stimuli
Arousal
Affective states
Positive punishment
Negative punishment
Response less likely

The 3 As

- Arousal
- Affective state
- Attachment

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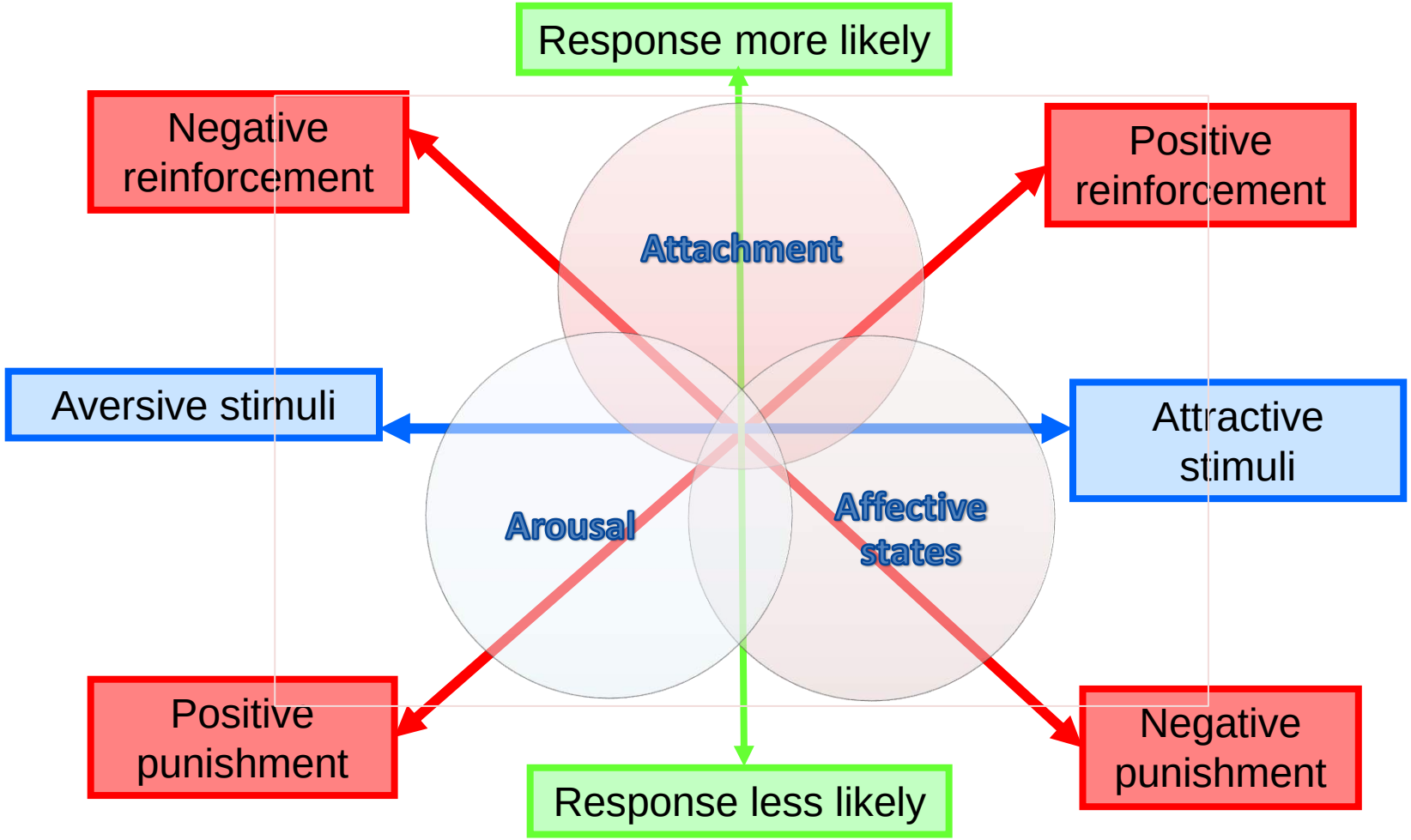
The best horsefolk manage the 3 As



Learning theory will develop when we measure:

- Attachment
- Arousal
- Affective state

to reveal what is meant by:

- “Trust”
- “Leadership”
- ”Partnership”

Questions