

New research has monitored how much pressure a rider exerts on a horse's mouth



THE SCIENCE OF EQUITATION

Rider rein pressure, the use of whips in racing and reducing behaviour problems through keeping horses naturally were on the agenda at a major conference looking at equine-related issues. Justine Harrison reports

The world's leading equine scientists congregated in the United States, at the University of Delaware, this summer to present and discuss the latest horse-related research projects.

The forum was organised by the International Society for Equitation Science (ISES - www.equitation-science.com) which promotes research that will raise welfare and safety standards and improve the horse/human relationship.

It is an annual event which gives equine academics, professionals and

practitioners, such as behaviour consultants, a chance to present and discuss the latest thinking and reveal the results of exciting research projects.

Speakers from all over the world, including the UK, shared their knowledge with like-minded people

Equine behaviourist and *Horse* Q&A expert Justine Harrison attended the conference and here she reports on the key presentations...



Riders and rein pressure

Speaker: Dr Hayley Randle, Duchy College, Cornwall, and current ISES president (left)

Riders often misjudge how much pressure they apply to the horse's mouth via the reins, and having an uneven contact is a common issue, according to a research project conducted in the UK.

Dr Hayley Randle's team enlisted riders ranging from novices to Olympians.

Using a life-sized dummy horse head fitted with a cavesson bridle and snaffle

bit, they were asked to hold the reins as they would normally do in walk.

The Centaur Rein Tension Device measured the pressure they exerted, using a scale going from nought (no pressure) to eight (maximum).

The riders rated how much pressure they were applying, which was compared to the figure recorded by the device.

Most riders overestimated the pressure they placed on the horse's mouth.

While the actual tension exerted was generally between one and two, the riders often rated it four to five.

Professional riders and those aged 18-30 had a more accurate idea of the pressure they were using.

Dressage riders were better at judging pressure than leisure riders and show jumpers; male riders were more precise than females.

Generally, regardless of discipline, riders were heavier with their right hand. Although this could be because the majority of us are right-handed, it highlights how often riders could take an uneven contact, and raises questions about how this could affect the horse.

Dr Randle emphasised that instructors should take this information into consideration when giving lessons.

"If you're a rider and someone is telling you to do something, how do you know what you are doing is right?" she stated. "More importantly, how does the trainer know that the rider understands what they are telling them: are they thinking it's something very different?"

"Trainers give instructions such as 'take up contact' - but what is contact?"

"For some of us it's easy, but for others it can seem a bit mystical. It can be complicated by words used by trainers such as 'feel,' 'give and take,' and 'elastic.' But these are subjective terms."

Dr Randle and her team plan to continue their research by repeating the study using actual horses.

"Trainers give riders instructions to 'take up contact' - but what is contact?"

Dr Hayley Randle



Are horses kept in herd environments healthier?

The 'other' 23 hours

Speaker: Professor Jan Ladewig, University of Copenhagen (right)

Owners need to give more consideration to their horses' welfare in the hours when they are not riding and training them.

Professor Jan Ladewig asked his audience to think about how management can affect a horse's health, behaviour and performance.

He said many owners don't believe a horse needs turnout as being ridden is enough, but are we riding them the many miles a day they have evolved to travel?"

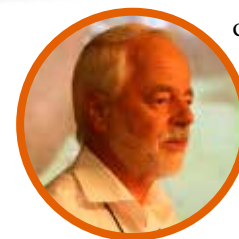
Studies have shown domestic horses are not that different to wild or feral horses, either mentally or physically.

By comparing them, said Professor Ladewig, "we get a strong indication of how wrong our predominant housing [stabling] system is.

"Letting a horse out alone in a paddock for a few hours is not good enough. They are social animals and need to be together with other horses."

He added that as well as having no social contact with others of their kind, too many horses move too little: "Considering that horses evolved to move around in slow walk while grazing for 12 or more hours a day, it must not be good for them to stand still so much."

He said many people need to change their attitude to horse care. "If we expect horses to perform, either at a high



competitive level or just during leisure riding, and if we expect them to be safe and easy-going to handle and to ride, we must consider the quality of those hours of the day when they are left by themselves,"

he said. "If we really are serious about the welfare of riding horses, we must get away from individual housing and over to group housing."

Professor Ladewig said it is important to consider how to create group environments where horses can "learn how to socialise and interact with each other peacefully from an early age".

Equine company, dirt to roll in, trees to stand under, bushes to hide behind, branches to chew on and a variety of forages should be provided routinely to fulfill a horse's natural needs.

"I cannot help wondering if the risk of injury is not bigger [when horses are kept alone] than when together with other horses," he concluded.



Horses need social interaction with other equines

Photo courtesy of Liss Ralston and P McGreevy

Use of the whip in racing

Speaker: Professor Paul McGreevy, University of Sydney (below)

How jockeys use – or misuse – whips in racing has been a hot topic for years.

Despite the introduction of ‘humane’ whips, there is still concern about the welfare impact on racehorses.

The racing industry’s reasons to justify the use of the whip have been investigated by Professor Paul McGreevy.

His team used high-speed, high-definition cameras to film races and examine how and when the whip is used and what effect whipping has on a horse’s performance and the outcome of the race.

The research has shown whipping does not necessarily make a horse run faster and it doesn’t affect whether the horse is placed in the top three. Inexperienced jockeys use the whip far more than their more experienced counterparts.

Film taken by the team revealed numerous breaches of whip-use rules:

- The whip was used more often than had been noticed by the stewards;
- Horses were regularly hit with the hard, unpadded section of the whip;
- They were whipped on their flanks in 75 per cent of cases – an action that is banned by racing authorities worldwide.
- In 83 per cent of cases, the whip made a clear indentation on the horse’s side.

In his latest study, a riding simulator was fitted with pressure-detection pads to measure the force of each whip impact.

Professional jockeys were asked to whip the simulator as they would when racing, using both forehand and backhand grips, in batches of 12 consecutive strikes.

The results showed individual jockeys had a huge variation in the force they used and they struck with more force using the backhand grip. On average, the jockeys whipped the horse at a speed of 12 strikes in seven seconds.

In the UK, the British Racing Authority allows the use of backhand in preference to forehand strikes.

The research concludes that some horses will be whipped much harder



“Whipping tired racehorses is unnecessary”

Professor Paul McGreevy

than others, which raises welfare concerns.

“Thirty years of whip-free racing in Norway strongly suggest that whipping tired racehorses is unnecessary,” said Professor McGreevy. “Top performance horses have been bred and prepared to give of their best.

“Add to that excellent horsemanship and you’ve got a winning combination – that’s all you need. We have evidence here that great horsemanship does not involve flogging tired horses.”

Understanding behaviour issues

Speaker: Dr Sue McDonnell, University of Pennsylvania (right)

Vets are urged to gain a better knowledge of equine behaviour.

The call came from Dr Sue McDonnell, who researches equine behaviour at the University of Pennsylvania’s New Bolton Center.

On a visit by conference delegates to the University’s School of Veterinary Medicine, she said: “there is a sad shortage of vets who have scientific behavioural knowledge”.

Dr McDonnell’s team work with vets from the University’s equine hospital and together they have a pioneering clinic specialising in whether equine behavioural problems are physical, psychological, or both.

When a horse comes to the team for assessment, details of training and

management are taken and he will be checked by vets for physical issues.

“For many of the horses referred here, gastroscopy reveals ulcers, which result in any of a variety of behaviour problems that go away when the ulcers are treated and heal,” she states.

The horses are filmed 24 hours a day, then the footage reviewed at various speeds – slow motion and speeded up playback can reveal behaviours or behavioural patterns which may be missed by observations in real time.

The centre is home to a semi-feral mixed herd of 105 Shetland-sized ponies.

They live with minimal human intervention and their behaviour and physical condition has been researched.

In one study, GPS trackers were fitted to some of the ponies and this revealed they may travel as little as six miles or over 100 miles in a 24-hour period.

This is a much higher figure than previous maximum estimate of 30 miles for a feral horse. [H](#)



Images of indentations in racehorses’ sides were captured during research into whip use



The herd of ponies have minimal human intervention