

Special Commentary

***International Society for Equitation Science Conference, June 2016, Saumur, France
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The International Society for Equitation Science (ISES) is a group dedicated to the scientific understanding of horses and their welfare, so that the quality of their association with humans can be improved. By supporting research into the training and welfare of horses, and creating an international forum for scientists to communicate across disciplines, ISES encourages the assimilation of scientific knowledge for use in relation to practical problems concerning the way horses are trained, managed, housed and cared for. The society provides free educational content, conferences, and position statements relevant to horse interactions in any situation, which makes awareness of this group relevant to professionals who include horses in therapy and educational services.

A highly recommended resource from ISES is their “First Principles of Horse Training”, available for free on their website both as a printable poster and as a text with more in-depth explanations. These ten training principles describe how to maintain optimal welfare and training efficiency regardless of your horse’s age, breed, training level, and discipline. The principles apply to training and handling of therapy horses, and you can assess whether your existing training system demonstrates each principle.

There is no reason why professionals who provide equine-assisted services should not be among the most knowledgeable on horse behavior, ethical training, and welfare. It is important to base our understanding of horses on scientific inquiry, rather than simply on tradition or personal experience. Groups like ISES can help us achieve this. In addition to the material available on their website, ISES organizes an annual conference in different parts of the world, which is open to anyone interested in attending. What follows is a conference report from the 12th ISES conference by Heta Rautiainen (Finland).

In June 2016, the 12th annual International Society for Equitation Science (ISES) conference took place at the French National Riding School in Saumur, France, and was hosted by the French Institute of Horse and Riding (Ifce). The Cadre Noir of Saumur, renowned for its centuries of horse training and cavalry tradition, has its home at the National Riding School, and participants viewed demonstrations as part of the conference.

The 12th conference theme, “Understanding horses to improve training and performance”, is relevant to professionals in all sectors that involve interaction with horses. Demonstrations highlighted the importance of welfare for both horse and rider/handler, as good performance, regardless of setting, is dependent on welfare. One of the key messages from the conference was that in order to improve welfare, scientific study should be applied to all areas of equine interaction. The conference provided new insights in areas of performance (physiology, biomechanics, equipment, impact of surfaces), cognition and learning, behavioral needs, breeding, handling of horses, and human-horse relationships. Presentations generated interesting and open-minded discussions.

The conference started with an introductory overview on what is known about the behavior, needs, and cognition of horses (McDonnell), followed by a thought-provoking presentation in which memory processing between humans and other animals was compared (Calandreau). Understanding the functional anatomy of the brain is very important for making sense of the mechanisms that steer our own and our horses’ behaviors. Our communication with horses is based on applied ethology, meaning that we apply information about horses’ natural behavior and learning to horse care and training. Understanding equine behavior and equine learning theory is key to improving the human-horse relationship, and also has major benefits for the overall wellbeing of horses. In a study examining four equine-assisted therapy and learning models in the U.S., the authors concluded that more accurate understanding of equine behavior is needed to fully utilize behavioral feedback and to improve welfare for the horses working in this area (Kieson & Abrahamson). Good quality therapy and learning services can only be produced with well-kept and relaxed animals.

Many studies presented at the conference focused on how stress or discomfort from housing conditions and equipment (tack) affect horses’ stress levels and, thus, overall behavior. The quality of a horse’s performance, regardless of discipline or work role, is a result of both their needs being met in their living situation and appropriate training and equipment use. To improve equine wellbeing we must know what is normal behavior and why problematic behaviors occur. For example, feeding and overall management strategies can have a huge impact on a horse’s stress levels, which also closely affect the work we do with the horse. Horses need approximately 16 hours of grazing per day (near-constant intake of fiber), space to move without restriction, and to socialize with other horses. If these basic needs are hindered, horses develop stereotypies,

which can be compared to addiction behaviors in human terms (van Dierendonck; Losonci, Berry & Paddison). Stereotypic behaviors arise as a way for horses to cope with their environment. Studies are exploring whether they have an impact on learning (Briefer, Beuret, Briefer, Zuberbühler, Bshary & Bachmann).

Stress, pain, and discomfort can be recognized in horses, even if they, as prey animals, tend to hide such expression. Van Dierendonck and van Loon introduced a study in which two pain scales were validated. Recognizing pain expression can be difficult, so these validated pain scales are much needed in the process of evaluating behavioral problems and welfare issues. In addition to traditional observational methods, a new technological device has been developed to objectively and reliably measure things such as nose band tightness (Casey, Conway, Doherty & Conway), which is a remarkable problem in equine sport (Doherty, Casey, McGreevy & Arkins), as it produces negative effects on equine mental states (Piette, Exadaktylos & Berckmans). In addition, an advanced electroencephalography (EEG) helmet for measuring brain waves in horses was presented. Its ease-of-use will be helpful in studying cognition, monitoring attention during veterinary procedures, and detecting diseases like epilepsy.

The impact of tack and equipment was discussed extensively at the meeting. Pressure and its use in handling and training is an important area to study, as incorrect or inappropriate use of pressure has welfare consequences for all horses. One study (Carey) compared bitted and bitless bridles used in a therapeutic riding setting. Horses showed less negative behavior like head tossing, resistance, biting at the leader, and having a restless mouth when wearing a bitless rather than a bitted bridle in the test group. In a demonstration session, Jill Carey from Festina Lente Equestrian Centre (Ireland) shared her experiences of applying ethology (the study of behavior) to her center environment and educating staff on how a comfortable, low-stress life can be ensured for riding school and therapy horses.

In addition to training and housing, temperament is an important factor to consider in our interactions with horses. Temperament, which is considered fairly fixed, innate, and observable soon after birth, affects how horses react to stimuli. Horses are sensitive animals and a constant state of fear impairs their quality of life and ability to work. Experience of fear-inducing situations, such as novel object exposure, raises heart rate and slows the performance of tasks (Winther-Christensen). Glucocorticoid secretion related to this kind of stress can cause health issues in the long run. Fear and discomfort should be minimized during training in order to avoid stress and unwanted emotional associations to the interactions and tasks involved. Thus, for safety and welfare reasons, horses should be prepared to experience as many things as possible with humans, and this, of course, includes therapeutic and educational services. Helping horses become habituated to different kinds of new objects and situations with a familiar handler (Cliffe &

Scofield), and giving them a chance to associate a relaxed mind to as many things as possible, are good strategies.

The usability of personality tests (Lansade & Vidament) for horses as part of breeding and leisure horse grading systems, in order to objectively categorize “shy” and “confident” horses as well as matching horses with riders, was also discussed at the conference. These kinds of tests need to be carried out in a way that is safe for everyone involved. One particular issue revolves around provoking too much fear and flight during testing, and, thus, causing psychological trauma for horses since, with their large amygdala, they have excellent memory for fear. Applying the principles of learning theory during testing and training can help horses maintain their natural curiosity while remaining calm and safe. Temperament testing prior to specific training and preparation can help establish overall suitability of horses for particular kinds of therapy or learning services.

Understanding interactions between humans and horses is very important whether you are a leisure rider or a professional. Because horses associate feelings with what they experience, every person the horse meets teaches the horse something about humans. There is still a significant number of people who regularly interact with horses and who lack information about approaches to equine management that are based on the horse’s behavior and needs (Telatin, Baragli, Greene & Gardner; Bornmann). Fortunately, successful approaches to increasing rider knowledge through equitation pedagogy have been implemented (Abbey & Randle). Experiential learning techniques and ways for learners to find trust in the teacher’s competency were impactful aspects for changing behavior and thinking (Dumbell & Lewis).

In addition to the handful of studies highlighted here, the conference contained a variety of very interesting presentations, such as the impact of arena surfaces on horses, pressure and consequences from using specific kinds of equipment, and the biomechanics of both humans and horses. Although this was a scientific conference with serious topics, the atmosphere was uplifting and people very friendly. As professionals working with horses in therapy and education, we should apply scientific knowledge of horses, riding, and human-horse interaction to our practice in order to provide more beneficial and high quality services for our clients, and a better life for our horses.

Information about ISES, upcoming conferences, and proceedings from previous conferences can be found at www.equitationsscience.com