

Animal SIG Newsletter

Equine Quality of Movement Assessment

Dr. Annette Bowen, BSc. Phys. Dist., MSc. Vet. Phys.,
APA Animal Physiotherapist, MACP, PhD

Two recent publications in the *Journal of Equine Rehabilitation* detail research on improving clinicians' evaluation of equine movement in the field. Rather than relying solely on technology and quantitative data, the work focuses on developing an outcome measure for visual assessment to provide a more holistic evaluation of 'quality' of movement. These studies are important steps towards a standardized, field-friendly approach to assessing equine quality of movement and monitoring the effectiveness of physiotherapy and rehabilitation interventions. The first article details the development of the **Equine Quality of Movement Score (EQoMS)** through a modified Delphi process, expert discussions, and pilot testing. The second article examines the reliability of the EQoMS, with 6 assessors.

When a human athlete sustains an injury and they go to see the physiotherapist, the physiotherapist performs an assessment, a treatment and a reassessment. That reassessment is repeated over the journey of rehabilitation to ensure that treatment is effective and that the athlete returns to their previous level of function. But what about horses? Horses are athletes too. Equine physiotherapy, sports medicine, and rehabilitation are emerging professions. However, when an equine athlete sustains an injury, the equine physiotherapist doesn't have as many assessment tools, which makes it challenging to know whether the treatment is effective and whether the horse is getting better or not. This leaves the industry vulnerable to unvalidated interventions, potentially hindering horses' recovery.

To bridge the gap between subjective lameness scales and instrumented gait analysis this research has created a field-based outcome measure for monitoring quality of movement in horses. In contrast to the diagnostic tools that veterinarians use to identify lameness and pathology, the EQoMS instead focuses on the horse's quality of movement, encompassing movement patterns and asymmetry but also coordination, motor control, and ease of movement. It is intended for use by equine clinicians working with horses undergoing rehabilitation or managing performance issues. Such horses may present with movement dysfunction, motion asymmetry, inconsistent, subtle or mild lameness (eg, American Association of Equine Practitioners (AAEP) <2 Lameness that is difficult to observe at a walk or trot in a straight line but is present under certain circumstances).

The EQoMS is a battery of in-hand movement tests, designed progressively such that movements at the beginning require less functional ability to perform, while tasks at the end require greater functional ability. The battery is confined to a key group of active in-hand movement tests to exclude additional factors introduced by tack, riders, or manual techniques.

An online survey of equine professionals conducted in 2022 determined the most frequently observed in-hand movements when assessing horses.¹ This resulted in a list of movements including more than just walk and trot in a straight line, it also has firm and soft surfaces, small circles, step back, hindleg cross-over, transitions between paces and lunging at walk, trot and canter. An expert panel was invited to select words for a grading system and the most important features to assist scoring. A discussion group was also held to standardise parameters and instructions for handlers. To complete the transformation from movements into movement tests, the suggestions were pilot tested and refined.² This was followed by a reliability study.³

The EQoMS has been designed to enhance traditional equine assessment methods and may be used independently, alongside, or to augment instrumented gait analysis. Unlike in a traditional lameness trot-up, which produces a global score, in the EQoMS each movement test is scored individually to more precisely convey in which gait or circumstance gains or losses are occurring. Due to the different physical demands of each movement test the key features to evaluate quality also differ. The whole battery of movement tests can be used to establish a baseline and for reassessment at intervals throughout rehabilitation or performance management. Individual movement tests may serve as reassessments within the same treatment session; however, further research is required to validate their reliability for this application. While it is anticipated that providing scores for individual movement tests will improve sensitivity to detect meaningful changes, clinical trials using the EQoMS pre- and post-intervention to evaluate this are needed. As such, its role in outcome measurement and decision-making should continue to be explored in both research and practice.

The EQoMS is intended to be integrated into normal clinical workflow, not used as a stand-alone tool. Before starting the movement tests, the clinician would have gathered the clinical history, the individual horse's signalment factors, observed the horse statically, formed some hypotheses, and thought about how much of the physical assessment it may be appropriate to attempt today. After the EQoMS, assessment may flow onto



Figure is original artwork by Rose and Annette Bowen.



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observation of other specific functional movements or proceed to palpation, depending on the clinical context.

Defining and differentiating quality of movement and lameness was one of the biggest challenges throughout this research. It seems within equine clinicians, there are many different interpretations assigned to the term 'lameness', ranging from simple head nodding, hip hitching, limb offloading, to a much broader definition of lameness as any deviation from 'perfect' movement due to any cause. Personally, I prefer to refer to the latter as movement dysfunction.

The EQoMS provides a framework for assessment of equine quality of movement that is evidence-informed and clinically practical. In an era dominated by technological advances, this research reminds us that meaningful clinical progress can also come from doing the basics better. Far from being obsolete,

clinical expertise and structured observation remain essential, not to be replaced by technology but strengthened by it. I would like to thank all the physiotherapists and veterinarians who contributed to this research. The development of a standardized protocol for equine movement assessment is a necessary step towards improving consistency. The EQoMS has the potential to strengthen communication between clinicians, guide rehabilitation, and improve the quality and credibility of care in equine physiotherapy.

For access to the EQoMS training program, which includes detailed explanations of movement directives, scoring criteria, video demonstrations and benchmark scores/ comments from expert assessors - please refer to <https://www.abphysio4horseandrider.com/eqoms>



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