Rehabilitation of equine back pain - a physiotherapeutic approach focussing on neuromotor control

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Equine back pain is a cause of altered performance in the equine athlete and is a consideration in equine welfare.

Horses with suspected back pain can present with a variety of signs, including spinal stiffness, lameness, pain on palpation of the back, subtle gait alteration and avoidance behaviours under saddle (Harrison et al 2025). Diagnosis of the underlying cause of back pain can be challenging. Historically, the veterinary diagnosis of back pain has focused on both the anatomical location and the specific pathology involved. Studies have shown that in equine back pain, radiographic and scintigraphic signs can be present without corresponding clinical symptoms (Denoix & Dyson 2003) and vice versa (Cousty et al 2010). We also know this from human studies (Ract et al 2014)

When a pathoanatomical or specific cause of back pain cannot be identified, a functional diagnosis can be useful. Functional assessment has traditionally been used by physiotherapists, but is now employed more widely by rehabilitation clinicians from other professional backgrounds and provides the clinician with important information

Functional assessment of equine back pain involves observation, palpation and functional tests including tests of neuromotor control. Neuromotor control can be thought of as active joint control and can be utilized to prevent and treat back pain. This active stabilizing system embraces the concept of optimal activation of muscles of stabilization of the vertebral column (Panjabi, 1992). Neuromotor control patterns in the human spine are well established and is an emerging area of knowledge in horses (Stubbs et al 2011).

In assessing neuromotor control in primary or secondary back pain, the overall movement patterns of the horse are examined, not just those relating to potential pathology in a specific region of the back. The clinical draws a hypothesis about the factors contributing to horse's dysfunction or impairment – this hypothesis may be supported by, or in turn support clinical information gathered from imaging or other diagnostic techniques The basis for the identification of specific rehabilitation issues and the associated treatment plans is then formulated.

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