Current treatment and surgical options for back pain in horses

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Back pain is a common cause of reduction in movement, reduced performance and behavioural issues in horses, particularly those in demanding athletic disciplines. Among structural causes, kissing spine — or overriding/impinging dorsal spinous processes (ODSP) — is frequently diagnosed. However, equine back pain is multifactorial, and a thorough approach to diagnosis is critical for appropriate treatment. Surgical management of kissing spine, including standing procedures, combined with adjunctive therapies and structured rehabilitation, can lead to the best outcome.

ODSP most often affects middle aged horses, with Thoroughbreds and Warmbloods being more commonly affected breeds. Horses in disciplines requiring collection, impulsion, and back engagement (e.g. dressage, jumping, eventing, racing) are often diagnosed with back pain. Horses with certain genetics, long backs, poor topline muscle, or ill-fitting tack maybe predisposed. Horses started too early or trained intensively without adequate muscular development and posture as are also at risk of back pain.

Assessing and diagnosing the cause of back pain includes a thorough understanding of anatomy and pathophysiology. While kissing spine is a leading cause, other sources of axial pain include: articular process joint (APJ) arthritis, muscle pain, desmopathy, sacroiliac joint dysfunction. A comprehensive history and physical examination including palpation and dynamic evaluation is essential. Although less commonly utilised objective measures can include gait analysis, algometry, and thermography.

Radiography is best for diagnosing ODSP and can occasionally identify APJ changes. Radiographic impingement may occur without pain; therefore, diagnosis must correlate with clinical signs. Ultrasound can identify bone, APJ, ligamentous and muscular pathology; used to guide therapeutic and diagnostic injections. Scintigraphy can be useful in locating areas of increased bone activity related to ODSP, APJ arthritis, sacroiliac inflammation, or other bone pathology leading to secondary back pain. Diagnostic perineural or intra-articular is essential can be used, however affects are multifactorial and therefore should be interpreted with great consideration.

The aim of treatment is to restore pain free movement and function. Conservative medical treatments include local infiltrations or APJ injections, systemic pain management and disease modifying drugs. Adjunctive modalities such mesotherapy, shockwave therapy, laser therapy and acupuncture, can further help with pain and healing. Electrical stimulation methods can help reduce pain, improve muscle function and enhance range of motion. Surgery for the treatment of ODSP is well documented and performed in selective cases where conservative management has failed. These can be done under general anaesthesia or standing with appropriate sedation and local analgesia. Interspinous Ligament desmotomy (ISD) is a procedure that involves severing interspinous ligaments to reduce

tension and has reported success of >80-90% with rehab (Coomer et al. 2012). Subtotal Ostectomy (Cranial Wedge Technique) is a surgical procedure which removes part of one or more involved spinous processes to increase interspinous space. This surgery requires careful patient selection and studies show up to 91% clinical improvement (Brink et al. 2014; Perkins et al. 2005). Although relatively low risk, surgery is not without complications including atrophy, infection, poor cosmetic outcome, possible effect on back stability, and ongoing back pain. Early, guided rehab is particularly important post-surgery, with a progressive return to work over 3–6 months.

Regardless of cause or treatment, rehabilitation is essential to restore comfort, strength, and performance. This includes exercise modifications, dynamic mobilisation, gymnastic exercises and training and rehabilitation aids. Core stabilization and strengthening using in-hand work, long-lining, hill work, and cavaletti are recommended. Postural and proprioceptive retraining is helpful to promote spinal engagement and reduce compensatory patterns. Ensuring proper saddle fit and rider balance as well as manual therapy (stretching, massage, myofascial release) are also helpful.

In conclusion, kissing spine is a common but not exclusive cause of equine back pain. Other conditions, especially articular process joint arthritis, must be considered during the diagnostic process. Standing surgical techniques like ISLD and subtotal ostectomy have made treatment more accessible, safer, and less invasive. However, the cornerstone of long-term success lies in a multimodal strategy: accurate diagnosis, tailored treatment, and structured rehabilitation.

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