

International Diploma in Equine Osteopathy

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Topics: The Impact of Osteopathic Articulation on Enhancing
Performance and Longevity in Horses

Equine athletes, just like human athletes, require optimal physical functioning to compete at their best. The equine industry, encompassing horse racing, equestrian events, and the western sector, is highly competitive and demands top performance from horses. In recent years, there has been increasing interest in osteopathic treatment for equine athletes, specifically the use of osteopathic articulation. Osteopathic articulation is a manual therapy technique that involves the mobilisation and manipulation of joints to improve the functioning of the musculoskeletal system (InMotionEquine, 2023).

The health and performance of equine athletes are influenced by various factors, with one of those factors being musculoskeletal health. Equine osteopathy, a non-invasive manual therapy, is founded on the belief that the body's structure and function are interrelated and that it has an inherent ability to heal itself (InMotionEquine, 2023). One area of focus in this field is the impact of osteopathic treatment on equine biomechanics and movement efficiency. In addition, the role of osteopathic treatment in preventing and improving sacroiliac (SI) and hip dysfunction in performance horses. Dysfunction in these joints can cause pain, reduce mobility, and alter gait, significantly affecting a horse's performance and quality of life. Addressing these issues through osteopathic articulation can help maintain and restore joint health, thereby enhancing overall performance (Eclipse Health and Osteopathy, 2023).

This thesis explores how osteopathic articulation can enhance athletic performance through improved joint functionality and overall body balance. It also examines the distinctions between osteopathy and traditional veterinary care. By reviewing existing literature and case studies, it provides insights into the potential of osteopathic articulation as both a preventative and therapeutic approach in optimising the performance of equine athletes (Gadd, D, 2024).

Osteopathic treatment is increasingly recognised for its significant role in enhancing equine biomechanics and movement efficiency. As an alternative medical practice, osteopathy emphasises the physical manipulation of a horse's skeleton, joints, muscles, and organs, collectively known as the musculoskeletal system (Avonvale Equine, 2023). By utilising a variety of manual techniques, osteopaths can diagnose and treat various conditions, thereby improving movement efficiency, reducing pain, and boosting overall performance (InMotionEquine, 2023). The primary goal of an equine osteopath is to restore the horse's optimal body function by addressing the root causes of pain and imbalance rather than merely treating the symptoms (The Whole Horse, 2023). This is achieved by enhancing the horse's natural balance, improving blood and nerve supply to tissues, and supporting the body's inherent healing mechanisms. For these objectives to be met, osteopaths must possess a thorough understanding of equine biomechanics, the study of the structure and function of horses in motion. This involves applying mechanical principles to understand how horses move, perform various tasks, and how different factors affect their movement and performance (Gladd, D, 2024).

Locomotion in horses is a complex process that allows them to move with grace, power, and efficiency. Horses have evolved to be exceptional runners, and their locomotion results from their unique anatomy, biomechanics, and muscular condition. The musculoskeletal system, which includes bones, muscles, tendons, and ligaments, is central to this process. The horse's long, slender limbs and strong, flexible joints are designed to support their body weight and generate forward propulsion (Wagner, D. K, 2021). Muscles work in harmony to produce coordinated movements and provide the necessary power for locomotion. Horses exhibit

several natural gaits, each with distinct rhythms and sequences of footfalls. These include the walk, trot, canter, and gallop (weHorse, 2020). Understanding these gaits is crucial for osteopaths to address movement inefficiencies and promote optimal performance. For example, the walk is a four-beat gait with each leg moving independently, the trot is a two-beat gait with diagonal pairs of legs moving together, the canter is a three-beat gait, and the gallop is a four-beat gait featuring a moment of suspension. Conformation, or the alignment and structure of a horse's bones and muscles, plays a critical role in equine locomotion. A horse with good conformation, such as well-aligned limbs and a strong, balanced body, tends to move more efficiently and with less stress on its joints and muscles (Duberstein, K, 2016). Osteopaths use their understanding of biomechanics and conformation to ensure the horse's well-being and optimal performance. Osteopathic treatment for horses includes the use of osteopathic articulation to improve biomechanics and movement efficiency. Imbalances or dysfunctions in the musculoskeletal system can decrease performance and increase injury risk. By identifying and correcting these issues, performance can be enhanced (Eclipse Health and Osteopathy, 2023).

Research supports the positive impact of osteopathic treatment on equine movement efficiency. For instance, a study by Perez-Clarke et al. (2018) found significant improvements in gait and performance in dressage horses after four weeks of treatment, along with reduced muscular tension and increased joint range of motion. Similarly, Langebach et al. (2017) observed enhanced range of motion and decreased muscular tension in jumping horses after three treatments, indicating improved physical function and mental state, leading to better performance. Beyond direct effects on biomechanics, osteopathic treatment can indirectly enhance performance by improving overall health and well-being. By reducing pain and discomfort, horses can move more freely and naturally, enhancing biomechanics and movement efficiency. Additionally, promoting overall health helps prevent injuries and other health issues that could impair performance (Wagner, D. K, 2021).

Osteopathy also plays a crucial role in preventing and treating sacroiliac (SI) and hip dysfunction in performance horses. A study by Annica Nygren Thoresen (2007) on 374 horses with suspected SI and/or hip dysfunction found that reduced motion in one or both hip joints was the most common issue, affecting 87% of the horses. This was followed by restricted motion in one or both sacroiliac joints, affecting 75% of the horses. Sacroiliac dysfunction (SID) is a significant cause of poor performance in horses, often manifesting as a lack of impulsion from one or both hind legs, back stiffness, resistance to jumps, and subtle gait asymmetry (Thoresen, 2007).

The higher incidence of hip joint dysfunction compared to sacroiliac joint dysfunction can be explained by the functional differences between these joints. The sacroiliac joint stabilises the pelvis and has minimal movement, while the hip joint, or coxofemoral joint, is a highly mobile ball-and-socket joint that connects the horse's pelvis to the femur. This joint is essential for locomotion and weight-bearing and includes components such as the acetabulum, femoral head, articular cartilage, ligaments, joint capsule, and surrounding muscles (Horse Inside Out, 2024). The extensive range of motion permitted by the hip joint makes it susceptible to dysfunction, especially if the surrounding muscles are not functioning correctly, leading to hypermobility and other issues. Hip joint dysfunction can significantly impair a horse's performance by limiting its range of motion and reducing mobility and flexibility, which is pivotal for agility. When a horse experiences this kind of pain and discomfort, it can become less willing to work resulting in behaviour changes for example, avoiding contact, bucking or even rearing as a response. Additionally, when a horse displays signs of hip dysfunction, it can affect more than performance resulting in throwing off the

horse's gait, balance and coordination (Hendrils,T, 2018) This happens as the horse may try to adjust its movement to avoid pain therefore putting extra strain on other parts of the body. As a result, this can lead to injuries developing elsewhere as the body overcompensates for the weakened hip.

The sacroiliac (SI) region, where the sacrum and ilium converge, also plays a critical role in a horse's performance. The SI joint, a synovial joint characterised by a fibrous capsule and supported by strong ligaments, transmits forces from the hind limbs to the spine. Dysfunction in this joint can lead to a cascade of complications that seriously impact a horse. This condition often causes significant discomfort and can manifest in various ways, from reluctance to move to noticeable behavioural changes (Leste-Lasserre, C.,MA 2023). For instance, a horse may become irritable or anxious, showing clear signs of distress when asked to perform tasks it previously managed with ease. Reduced mobility is another critical issue. The SI joint plays an essential role in the horse's ability to move smoothly and efficiently. When this joint is not functioning correctly, the horse may have difficulty extending its hind legs, leading to stiffer, less fluid motions. This altered gait can swiftly turn into a noticeable limp or stagger, markedly diminishing the horse's speed and agility (Leste-Lasserre, C.,MA 2023). Physical limitations frequently result in decreased endurance. The pain and discomfort can potentially cause the horse to tire quickly therefore making it difficult to sustain high levels of work resulting in decreased fitness levels and a reluctance to cooperate. One of the more insidious aspects of chronic SI joint issues is the tendency for the horse to overcompensate leading to additional injuries by shifting its weight disproportionately placing undue stress on other joints and muscles (Kohnke et al., 2020).

Preventing and maintaining hip and SI joint health in horses are essential aspects of equine management. Equine osteopathy, a holistic approach to equine health, can play a significant role in this. Regular osteopathic check-ups can help identify and address early signs of dysfunction, preventing the condition from progressing (Equine Osteopathy, n.d). Osteopathic techniques such as articulations and manipulations, developed by Andrew Taylor Still and adapted for horses by Stuart McGregor, can improve joint mobility, reduce muscle tension, alleviate pain, and potentially prevent hip and SI joint dysfunction. These techniques involve gentle, rhythmic joint movements based on osteopathic principles that emphasise the interrelationship between structure and function and the body's ability to heal itself (Johnston, A, 2024).

Osteopathy also emphasises the importance of overall body balance and alignment, considering the horse's entire body rather than focusing solely on the area of dysfunction. This approach helps identify and address underlying issues contributing to joint dysfunction, promoting overall health and well-being (Johnston, A, 2024).

In addition to osteopathic treatment, proper nutrition, regular exercise, and routine veterinary check-ups are essential for preventing and maintaining hip and SI joint health in horses.

Incorporating osteopathy into routine equine health care can be highly beneficial in preventing and managing hip and SI joint dysfunction, ensuring that performance horses remain healthy and capable of performing at their best (MySir Osteopati og Fysioterapi, 2023). It is vital that along with osteopathic treatment the horse receives a balanced diet rich in essential nutrients such as vitamins, minerals, and amino acids to aid in maintaining muscle and joint health. Proper conditioning and training routines that include stretching and strengthening exercises can enhance flexibility and muscle support around the joints, reducing the risk of injuries (Palmer, S, n.d). Regular assessments by equine osteopaths and

veterinarians can detect early signs of joint issues, allowing for timely interventions that can prevent chronic conditions. The environment in which the horse is kept also plays a significant role in its joint health. Providing ample space for movement, ensuring comfortable and supportive bedding, and maintaining clean and safe stabling conditions can prevent undue stress on the horse's joints. Horses that have the opportunity to move freely and engage in natural behaviours are less likely to develop stiffness and joint problems. Ultimately, a comprehensive approach that combines osteopathic treatment, proper nutrition, regular exercise, and optimal living conditions can greatly enhance the health and performance of horses. By addressing both the physical and environmental factors that contribute to joint health, horse owners and caretakers can ensure that their horses lead healthy, active, and fulfilling lives (Osteopathy, Q, E, 2024).

Equine osteopathy and traditional veterinary care offer distinct yet complementary approaches to maintaining and enhancing the health and performance of horses. Each method brings unique principles, techniques, and applications that cater to different aspects of equine well-being (Avonvale Equine, 2023).

Equine osteopathy, grounded in manual therapy and holistic principles, aims to restore musculoskeletal balance through techniques like joint mobilisation, soft tissue manipulation, and spinal adjustments. These methods not only target specific issues but also enhance overall biomechanical efficiency, thereby potentially preventing future injuries by boosting the body's natural healing processes (Haussler, 2009). An illustrative case study highlighting the effectiveness of equine osteopathy involves a competitive show jumping horse suffering from recurrent hind limb lameness due to sacroiliac dysfunction. Over a series of osteopathic sessions focused on sacroiliac mobilisation and lumbar spine manipulation, significant improvements in gait symmetry and hind limb movement were observed. Consequently, the horse's performance levels escalated, underscoring the potential of osteopathic interventions to restore functionality and optimise athletic prowess (Thompson, 2010). Research continues to affirm the biomechanical benefits of equine osteopathy. Studies indicate that manual therapies can enhance muscle flexibility, joint range of motion, and overall musculoskeletal resilience in horses (Stubbs et al., 2011). Such improvements are particularly advantageous in disciplines requiring precision and agility, such as dressage and eventing, where optimal biomechanical function directly influences competitive outcomes. In contrast, traditional veterinary care remains essential for addressing acute injuries, managing chronic conditions, and providing comprehensive medical interventions. Veterinarians leverage advanced diagnostic tools such as MRI, CT scans, and digital radiography to accurately diagnose musculoskeletal issues and tailor treatment plans accordingly (Versailles Equine Vet, 2023). Pharmaceutical treatments, surgical procedures, and rehabilitative therapies are pivotal components of veterinary care aimed at facilitating recovery and restoring functional capacity in horses.

While traditional veterinary care excels in acute medical management and complex surgical interventions, equine osteopathy offers a proactive and holistic approach to enhancing musculoskeletal health and preventing injuries. By addressing subtle biomechanical imbalances and restrictions early on, osteopathic treatments can potentially mitigate the risk of overuse injuries and optimise long-term athletic performance in horses subjected to rigorous training regimens (Avonvale Equine, 2023). Critics of equine osteopathy often highlight the necessity for rigorous scientific validation and standardised training among practitioners to ensure safe and effective application of manual techniques. Although

anecdotal evidence and case studies illustrate positive outcomes, further research is crucial to establish the efficacy of osteopathic treatments in enhancing specific performance metrics such as speed, agility, and endurance in horses.

Both equine osteopathy and traditional veterinary care play pivotal roles in optimising the health and performance of horses. Equine osteopathy's emphasis on manual therapies and holistic principles offers unique advantages in enhancing musculoskeletal function and preventing injuries. Traditional veterinary care provides indispensable medical interventions and diagnostic capabilities necessary for managing acute conditions and complex health issues in horses (Gadd, D, 2024). By integrating these complementary approaches, horse owners and practitioners can effectively optimise the well-being and athletic potential of their equine athletes. Equine osteopathy's proactive approach to musculoskeletal health may offer distinct advantages in maintaining optimal biomechanical function and reducing the incidence of performance-limiting injuries. Continued research and collaboration between osteopathic practitioners and veterinary professionals are crucial to further refining and validating the application of equine osteopathy in enhancing equine health and performance. Expanding on the integration of these approaches, equine osteopathy's proactive management can contribute significantly to the longevity and performance sustainability of horses engaged in various competitive disciplines. For instance, in disciplines like endurance riding, where horses endure prolonged physical exertion, maintaining optimal musculoskeletal health through osteopathic interventions could potentially enhance their endurance and recovery capacities.

The holistic nature of equine osteopathy extends beyond physical benefits. It encompasses considerations of the horse's overall well-being, including behavioural aspects and stress management, which are integral to maintaining a healthy and happy athlete (Osteo, O, 2018). This broader perspective aligns with evolving trends in equine management that emphasise welfare and performance outcomes in equal measure. Furthermore, equine osteopathy's preventive approach aligns with contemporary perspectives on sports medicine in human athletes, where early intervention and maintenance therapies are increasingly recognized for their role in prolonging careers and reducing injury risks. By identifying and addressing minor musculoskeletal issues promptly, osteopathic practitioners can potentially mitigate the development of more severe conditions that could sideline horses from competition or training. Despite the promising benefits, challenges persist in the integration and acceptance of equine osteopathy within the broader veterinary and equestrian communities. Addressing these challenges requires ongoing education, research, and collaboration among practitioners, veterinarians, and regulatory bodies to establish standardised protocols, ensure safety, and build a robust evidence base supporting the efficacy of osteopathic treatments in various equestrian disciplines.

In summary, while equine osteopathy and traditional veterinary care offer distinct methodologies, their integration represents a comprehensive approach to supporting the health, well-being, and performance of horses (Avonvale Equine, 2023). Equine osteopathy's proactive and holistic focus on musculoskeletal health complements traditional veterinary interventions, thereby enhancing the overall care and management of equine athletes across diverse disciplines and competitive levels. By embracing the strengths of both approaches and fostering collaboration between practitioners and veterinarians, the equestrian community can optimise outcomes for horses, ensuring they thrive both in health and performance throughout their careers.

Osteopathy plays a significant role in enhancing equine performance through its focus on biomechanics, prevention and treatment of specific dysfunctions like sacroiliac (SI) and hip issues, and its distinctive approach compared to traditional veterinary care. Equine biomechanics and movement efficiency are crucial for optimal performance. Osteopathic treatment aims to improve these aspects by addressing musculoskeletal imbalances, joint restrictions, and soft tissue dysfunctions that can hinder movement. Through manual techniques such as soft tissue manipulation, joint mobilisation, and stretching exercises, osteopaths aim to restore balance and symmetry in the horse's body. This enhances flexibility, range of motion, and overall biomechanical efficiency, thereby improving performance in various disciplines from dressage to show jumping. Sacroiliac (SI) and hip dysfunction are common issues affecting performance horses, often leading to decreased flexibility, altered gait patterns, and discomfort. Osteopathic treatment targets these areas specifically, using gentle and precise manipulative techniques to realign the SI joint and address hip mobility issues. By reducing pain, improving joint function, and enhancing muscular support around these joints, osteopathy not only resolves existing problems but also prevents future injuries, thus maintaining the horse's peak performance levels.

In contrast to traditional veterinary care that often focuses on specific symptoms and medical interventions such as medications or surgical procedures, osteopathy takes a holistic approach. Osteopaths consider the entire body's interconnectedness and the horse's individual biomechanical patterns. They emphasise hands-on assessment and treatment techniques tailored to each horse's unique needs, aiming to restore overall balance and health rather than simply treating isolated symptoms. This holistic approach not only addresses current issues but also supports long-term performance and well-being by promoting natural healing processes and optimising biomechanical function. Furthermore, osteopathy emphasises proactive care and maintenance to prevent injuries and optimise performance. Regular osteopathic assessments can identify subtle biomechanical imbalances or early signs of dysfunction before they escalate into serious issues. By addressing these proactively through targeted treatments and personalised exercise programs, osteopaths help maintain the horse's physical health and performance potential over time.

In conclusion, osteopathy significantly enhances equine performance by improving biomechanics and movement efficiency, addressing and preventing issues like sacroiliac and hip dysfunction, and offering a holistic approach that complements traditional veterinary care. By restoring balance, flexibility, and optimal function through gentle manual techniques, osteopaths play a vital role in ensuring that performance horses achieve and maintain peak physical condition, thereby maximising their competitive potential and overall well-being.

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