Is osteopathic care an effective treatment modality in the prevention of sacroiliac joint dysfunction?

A Thesis by Emma Ramanathan

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London College of Animal Osteopathy

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1. Introduction

1.1 Definition of Sacroiliac Joint Dysfunction (SIJD)

The sacroiliac joint is the joint that connects the spine to the pelvis and sits between the lateral wing of the sacrum and the wing of the illium (Jeffcott *et al.,* 2017). The pelvis is attached to the spine with very strong, thick ligaments and when these become strained, inflammation and tissue damage can occur. Although it is a synovial joint, it has very little range of motion and its main role is to stabilise and act as a shock absorber. The sacroiliac joint transfers energy from the hind limbs to the spine while in locomotion (Dyson, S. 2003). Sacroiliac joint dysfunction (SIJD) is described as a loss of proper function, leading to pain through the joint itself and the connecting ligaments. SIJD can be acute or chronic from a direct trauma, conformational faults and repetitive movements.

1.2 Relevance of SIJD

SIJD can be difficult to diagnose and often symptoms have developed gradually and worsened over time. Difficulty moving forwards, particularly in canter, difficulty picking up the correct canter lead, hind limb lameness, refusing jumps and generalised poor performance can be signs of SIJD (Clyde Vet Group, 2025). Diagnosing and treating SIJD is important to prevent increasing pain to the horse, possibly leading to compensatory issues to other joints and loss of use. SIJ pain may possibly be a secondary issue from an underlying primary cause, so a full assessment needs to be carried out to understand the reason for pain.

Chronic cases of SIJ pain is thought to be quite prevalent in competition horses, however diagnosis can be difficult to conclude (Jeffcott, L.B. 2017). Since horses are known to hide their levels of discomfort, a problem may only be detected once the dysfunction and therefore the pain level has become significant. By this point the treatment and recovery time can be longer and potentially not as successful. The role of equine osteopathy in detecting dysfunction is crucial before it becomes damaging, particularly in the chronic cases that gradually worsen over time. If horses receive treatment on a regular basis, any imbalances and soreness can be improved and correct advice can be given. This means that it is possible that the impact of SIJD could be lessened and recovery time improved. Osteopathy as a discipline is becoming more recognised as the physical impacts of riding horses, injuries and conformational faults are better understood and how these issues can lead to poor health, pain behaviours and essentially loss of use.

By maintaining the musculoskeletal system and ultimately preventing long term injuries from occurring, horses will become happier, healthier with the workload demands placed on them whilst reducing the risk of more invasive and expensive treatment in the future (Griffin, S. 2025).

1.3 Occurrence of SIJD

SIJD can occur for different reasons, though speculation still exists as to what truly causes SIJ pain (Dyson, S. and Murray, R. 2003). Evidence presented by Ricard (2025) suggests that it can be caused by a variety of factors which include but are not limited to:

- Trauma, such as a fall or slip.
- Repetitive use includes intense collection work and jumping over fences continuously.

- Conformation faults such as being too straight through the hocks or being long-backed.

While there are other factors that contribute to SIJ pain, for the purpose of this research the thesis will focus on these three causes.

1.4 Diagnostics of SIJD

Diagnosis of SIJ pain can be a difficult procedure and is often concluded through physical examination, presenting symptoms and scintigraphy scans. Assessing structure, function and pain levels can help to determine whether there is dysfunction to the joint. Radiography, scintigraphy and ultrasonography are used to diagnose through static imaging, however due to the structure of the joint it can be hard to detect damage or inflammation (Walter, L. J *et al* 2024).

1.5 What is osteopathic care?

Osteopathic care is about bringing the body into a homeostatic state in order for it to heal itself. By improving the musculoskeletal health, the cardiovascular, lymphatic and nervous system can be improved, leading to overall better health for both animals and humans. Applying osteopathy as a preventative treatment modality and for maintenance reasons is important to ensure any dysfunction in the body is treated before pain becomes apparent (Wernham, J. 1996).

Osteopathy can be viewed through the 4 tenets as described by Andrew Taylor Still (1902):

- The principle of body unity

- Inter-relationship between structure and function
- Self regulatory and self healing systems
- The rule of artery is supreme

With these principles in mind, we can look at the whole body as one unit that has the ability to heal itself. This is where osteopathy can be applied to facilitate a diagnosis and therefore an effective treatment (Taylor Still, A. 1902).

Osteopathy is an effective way of treating SIJD that has been caused by trauma, repetitive use and conformational issues. By addressing imbalances throughout the body, we can help restore joints back to better function which in turn reduces inflammation, soft tissue damage, compensatory factors and therefore pain.

In the case of trauma related SIJD, if the horse has already been under an osteopathic maintenance programme, the likelihood of recovery is much greater. This is due to the body already being in a better state to cope with injury as many underlying issues will have been addressed and the body should be in optimal health.

Using osteopathy as a preventative treatment modality for overuse and conformational issues means we can help reduce joint stiffness, dysfunction and muscle soreness and improve posture, leading to better overall health and ability to cope with these issues.

2. Hypothesis

This thesis will answer the following hypothesis;

"Can osteopathic care be an effective treatment modality in preventing sacroiliac joint dysfunction?"

Since osteopathy is generally used by owners once a problem has occurred, this paper will investigate whether ongoing maintenance treatment can be used to prevent SIJD from occurring. In the case of trauma to the SIJ, is the injury less severe and is recovery faster if the horse has already been treated through a regular maintenance plan?

2.1 Aims & Objectives

1. To determine whether osteopathic care be an effective treatment modality in preventing sacroiliac joint dysfunction caused by trauma, repetitive use, and conformation.
2. To determine the influencing factors that might affect the outcome/benefits of osteopathic care in preventing SIJ.
3. To determine the effectiveness of osteopathic care as a means to positively impact equine health and well being, leading to reduced behavioral issues and dependency on veterinary care.

2.2 Methodology

This research will address the hypothesis and answer the key aims and objectives through personal references and experience (primary data) as well as existing case studies (secondary data).

For the purpose of this research, “effectiveness” is considered to have been achieved if:

- The horse is able to respond to basic commands and appears to do so without pain and the absence of conflict behaviour.
- An even gait can be observed, where the horse can demonstrate working evenly on a straight line and appears balanced on the left and right rein.
- Improved joint mobility is maintained through treatment with no return to a dysfunctional state where the horse does not continue to shuffle from hind leg to hind leg or appear to drop through lumbar and core.

3. The effectiveness of osteopathic care in preventing long-term SIJD caused by trauma

3.1 Definition of Trauma

Trauma refers to a singular incident where there has been an impact to the Sacroilliac joint. This could include a slip or fall as well as an impact from a collision to the pelvis. When force comes

into contact with the SIJ, the surrounding ligaments are affected and ultimately injured. The joint itself can become inflamed, which leads to pain. The SIJ acts as a stabiliser but with sudden force the joint itself can become unstable. This leads to a weakness in the surrounding tissues and eventually more force is put upon the joint. (Van Wessum, R. 2014)

3.2 How does osteopathy help prevent trauma-related SIJD?

Whilst it is challenging to predict and prevent the occurrence of trauma, if it were to happen, the body would be in a better place to cope with the impact and heal itself. Regular maintenance osteopathy can ensure the body is in good health, leading to better recovery time from injury and ensuring any long term or recurring pain is limited. By keeping the joints mobile, the connecting soft tissues are able to maintain suppleness and elasticity, which helps to avoid overuse and muscle strain. When the body is in good balance, the tendency for compensation or overuse of one area is limited, meaning that strength in the correct areas is built. If the body is strong and in good posture the effects of a trauma, should it occur, is somewhat reduced. A horse that is weak, lacking balance and strength is already predisposed to injury, meaning that a direct trauma could be more catastrophic. Using osteopathy to help restore good posture, identify somatic dysfunction and encourage the owner to do the correct strengthening exercises could build better resilience to an impact should a trauma to the SIJ occur (Ward, T. 2022).

When there is misalignment from trauma through the structure of the pelvis, the function of the surrounding tissues are affected. This can lead to muscle atrophy and weakness. As a result of weakness, the SI joint can struggle to cope with demand of work and overtime lead to a chronic, recurring issue, unless addressed and treated correctly.

3.3 Trauma case studies

3.3.1 Case study: (Personal experience)

In one of my own horses called Archie, as a 6 year old, he had a slip on the road where his right hind dropped from underneath himself. Although at the time he had physio and appeared to be fine, around a year later as his work load increased he became lame through the right hind. After extensive veterinary examinations were carried out, no diagnosis was made and physio treatment was unsuccessful. At 7 years old I was told to retire my horse as he would not be ridden again. I was unable to accept this and after 6 months of no ridden work I found an osteopath who found major right lumbar rotation, pelvic asymmetry and associated cervical spine restrictions at multiple levels. After 3 months of regular treatment and correct rehab Archie showed no signs of pain under saddle. He went on to work at elementary dressage. He is now 19 years old and is ridden regularly at novice level and has treatment every 3 months (Ramanathan, E. 2025).

3.3.2 Case study: (Personal research)

In this example I interviewed a personal contact who himself had seen an eventer who had a fall while out cross country, leading to pelvic misalignment. After veterinary care eliminated any fracture, osteopathic treatment began a week following the incident. Once the misalignment had been corrected and the gluteal muscle restriction had been addressed the horse was able to compete 12 weeks later (Tirado, F. 2025). It is claimed that without any intervention the horse would have had a much longer recovery period and been predisposed to future injury. The acute injury could have become a chronic dysfunction, where pain pathways in the nervous system are

continually present. These pain receptors then become more sensitive to stimuli meaning that the body is unable to deal with physical stress, for example work load.

By using osteopathy as a treatment intervention, the systems of the body can function in the most optimal condition. This includes not only the musculoskeletal system but also the lymphatic, cardiovascular and nervous systems. When the body is in homeostasis then the ability to heal from trauma is that much greater and successful (Taylor Still, A. 1902).

4. The effectiveness of osteopathic care in preventing long-term SIJD caused by repetitive use

4.1 Definition of repetitive use

When a horse is in work and repeatedly doing the same movements over again this can lead to injury. Exercises such as jumping or collection work in dressage can put stress upon the sacroilliac joint by loading the muscles and ligaments of the hind end. This constant and repetitive force through the pelvis can create fatigue and strain of the tissues which results in inflammation and possible tissue damage. If a horse is worked unevenly such as always racing on the left rein on the track then misalignment can occur through the pelvis, where one side becomes hypertrophied and the other underdeveloped. This uneven muscle use puts too much strain upon the tissues and results in a dysfunction of the SIJ (Ricard, M. *et al* 2025).

4.2 How does osteopathy help prevent SIJD in repetitive use cases?

Osteopathy improves joint range of motion and tissue function, addressing biomechanical imbalances in the early stages. When these imbalances are treated, soft tissue injury is less likely to become a problem. Horses in consistent hard work that are asked to use their bodies in a repetitive manner can benefit from having regular osteopathy. When joint function and muscle health is at an optimal state then the body is better balanced and therefore more efficient through movement. Since the circulatory system is also impacted by osteopathy, the body is able to remove waste product more easily by improving the blood flow around and within the tissues. The nervous system is also affected, improving motor control, balance and proprioception. This leads to less strain through the SI joint and reducing the potential for injury from repetitive movements (Thoresen, A. 2009).

Consistent, repetitive exercise that overloads the joints and soft tissues will result in fatigue, particularly the gluteus medius, longissimus dorsi and multifidus. These muscles are primary shock absorbers to the SIJ when the hind limb is in motion, since they assist with transmitting force from the hind end through to the lumbar. Once fatigue has set in and the tissues are unable to support the pelvis, the load is directly transferred into the SIJ. This will cause tightness, restriction and eventually dysfunction, which leads to inflammation and pain within the joint and surrounding tissues. Motor control from the nervous system starts to adapt, meaning the horse loses the correct balance within the body. With compensatory patterns starting to take over, dysfunction throughout the body continues to develop, becoming weaker and and less able to cope with exercise demand (Bulbrook, T. 2024).

4.3 Repetitive use case studies

4.3.1 Case study: (existing research by Thoresen, A. 2009)

In a study where 374 horses were found to have poor performance and ultimately treated with osteopathy, 282 of those horses had restriction in one or both SIJ. The group included dressage horses and show jumpers that were displaying signs of inability to perform to the best of their ability. These horses had previously had medical intervention with intra-articular treatment, however the results were not long lasting. A total of 222 of these horses showed a positive response to treatment, with 15 showing no change at all (Thoresen, A. 2009).

4.3.2 Case study: (existing research by Ramon *et al*, 2025)

A study involving 29 sport horses competing at high level dressage and show jumping, all who presented with poor performance, took part in the study. 8 were in the control group and 21 received treatment. The horses in the treatment group either presented with right SIJ fixation, left SIJ fixation and bilateral SIJ fixation. The study concluded that following just a single treatment, there was small but significant improvement in the horses movement, most notably in canter for 15 days thereafter. There was an improvement in the hindlimb protraction and retraction movement pattern through canter. This demonstrates that osteopathic treatment altered and improved the range of motion in the pelvic and coccofemoral joints. Muscle tone along the back was also positively affected (Ramon, T. *et al* 2025).

5. The effectiveness of osteopathic care in preventing long-term SIJD caused by conformation

5.1 Definition of conformation

Conformation is the horse's inherent skeletal structure, where the limb length and angle, pelvic angle and hoof angle cannot be changed. The horse would have been born this way and the whole anatomy is based on genetics. A horse with correct structural alignment will be less predisposed to injury, while a horse with poor conformation could be more likely to develop chronic injuries, including SIJD (Dyson, S. *et al*, 2022).

Poor conformation could include hocks that are too straight, hoof/pastern angle that is too upright or too low or a long back. All of these conformational traits can lead to chronic stress to the SIJ, eventually leading to pain and dysfunction.

Where the hocks are too straight, this does not allow for any shock absorption through the limb. Since the limbs transfer movement and force into the body while active, without absorption through the hocks, the load goes straight into the pelvis. Over time, the surrounding tissues of the pelvis become tired and overworked, leading to strain and injury.

When looking lower down the limb at the hoof and pastern angle, a conformational fault can alter the limb mechanics which again creates stress through the limb and can transfer into the pelvis. The fetlock joint should have enough movement that as force is pushed down through

movement, the pastern joints are able to flex but also create stability. A fault would include a broken forward or broken backward hoof pastern angle (HPA). A broken forward angle describes a hoof where the fetlock becomes too low as the heels are too high and the toe is too short (Fabus, T. *et al* 2019). This creates a lot of pressure through the pastern joints and the flexor tendons of the lower limb. A broken backward angle is where the heels are too low, the toes are too long and the pasterns become vertical. Again, this creates stress through the suspensory ligaments and flexor tendons. If the horse has discomfort from the lower limb then as they adapt their movement, strain can be put upon the SIJ through compensation (Domańska-Kruppa, N. *et al* 2025).

Horses with long backs can struggle with correct muscle development over the back and the pelvis and are particularly predisposed to SIJD when asked to do a lot of collection work in dressage. The long back makes it harder for the horse to "sit" and use its core and pelvic muscles. Since the lumbar and pelvic muscles are used to stabilise the SIJ, any weakness from these muscles, if asked to use them continually through work can lead to strain, inflammation and pain.

5.2 How does osteopathy help SIJD in horses with conformational faults?

Using osteopathy to help manage the musculoskeletal system through conformational faults can help reduce the possibility of SIJD. Although conformation cannot be altered, posture can be corrected through treatment and the use of corrective exercises. Addressing imbalances that are caused by conformation can lead to better function throughout the body. Osteopathy helps restore balanced motor patterns from neuromuscular retraining, which leads to better muscle health and

efficiency. Osteopathy helps to restore joint function and with regular treatment, any dysfunction can be addressed before it becomes an issue. Treatment of the soft tissues, particularly those that have been overused from compensatory movement, can help reduce the impact of muscle strain or spasm. Improving the blood flow helps remove waste build up in the tissues, which can cause early fatigue of the muscles. Although osteopaths primarily provide hands on treatment, any imbalance in the horse that is picked up can be helped with corrective exercises. The osteopath can advise the owner on corrective exercises and increase the awareness of their horse. With this education, riders are better equipped to understand where their horse is struggling, how to correct those problems and when to seek treatment (Innovative Veterinary Care Journal, 2022).

5.3 Conformational faults case study

5.3.1 Case study: (personal research)

Another one of my own horses called Arlo, who has very straight hocks and is slightly croup high has received osteopathy treatment on a regular basis for the past 5 years. When I bought him as a 5 year old I was aware of the conformational faults but I believed that recognising his limits and with correct work he could enjoy being a ridden horse. He was very weak and restricted through his body, lacking suppleness for the first year. Using osteopathy to improve his range of motion and reduce muscle tension meant that he found the suppling exercises easier and he started to use his body in a better way. Due to the straightness of the hocks and the load this creates through the pelvis and lumbar he can easily become tight through his body and so regular treatment helps to improve these restrictions before they become a bigger issue. The restrictions

do not usually show up as symptomatic from Arlo, they are only found through manual assessment. I believe that without treatment and the correct care that he could have become a horse whose dysfunctions led to a greater pain pattern. He is 11 years old and happily working at low level dressage and show jumping. He is able to manage this level of work despite his conformational faults and I believe if I continue with this approach he will go on to live a long and comfortable ridden life (Ramanathan, E. 2025).

6. Findings & Conclusion

Osteopathy can be a valuable treatment modality in managing the musculoskeletal health of horses, particularly those that are ridden, have suffered a trauma or have conformational faults. By understanding what osteopathy is and how and when it can be applied, we can use it as a preventative treatment protocol. By identifying areas of restriction and treating the body accordingly on a regular basis the likelihood of a chronic issue reduces. As osteopathy influences all the systems of the body, healing is more effective and a homeostatic state is more likely.

In the case of trauma to the SIJ, osteopathy can help manage the symptoms and help recovery time. However, depending on how serious the trauma had been, osteopathy may not be the only intervention that is needed to help recovery. With conformational faults, osteopathy cannot change the structure of the horse so it is therefore used as a management tool. The owner or rider needs to be aware of the horse's limitations to prevent strain induced injuries. The same could be

said for repetitive use and while osteopathy is a useful modality, it cannot counter-balance injury caused by repetitive action over a period of time.

The studies reviewed in this thesis suggest that osteopathy is an effective treatment modality with positive outcomes in most cases. By improving locomotion and movement patterns, the risk of muscle strain is less by improving compensatory overuse. Although, not all cases of SIJD can be prevented and more research will enable the identification of other factors influencing or causing SIJD. Veterinary care, farriery, saddlery and nutrition are other factors that need to be considered when preventing injury as osteopathy alone cannot encompass all areas of equine healthcare.

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