

Abstract

Low back pain is often considered one of America's most common physical limitations. This is especially true of those in professions where one is standing the majority of the day and in most athletics. Often, individuals with low back pain will take medication like a non-steroidal anti-inflammatory to reduce pain rather than looking at a deeper issue to fix the problem altogether. Dry needling is often used to reduce muscle tightness and spasms by releasing myofascial trigger points found within the muscle bundle. This is completed by inserting a monofilament needle into the trigger point and allowing it to sit for approximately 8 minutes before removing it. This study looked at a collegiate wrestler with unilateral low back pain to the point that he could not bend over and touch his toes. After several weeks of traditional rehabilitation, the opportunity for a dry needling session created an astronomical difference. This study aims to show how much improvement can be made after even one dry needling session in the athlete's treatment and recovery process. Suppose enough improvement can be demonstrated by implementing the dry needling intervention in the athlete. In that case study, the same improvement may be seen in other athletes with the same or possibly similar conditions. Therefore, future indications could warrant using dry needling intervention as a therapeutic modality for athletes suffering the same type of pain.

Introduction and Research Question

Introduction:

This athlete initially came in complaining of low back pain during practice. His range of motion was severely limited, and he was thus unable to participate in practice like normal. He was initially treated with electrical stimulation, stretching, as well as rehabilitation exercises. Unfortunately, while these methods helped some, the pain remained relatively high. The athlete was then referred to a chiropractor who suggested dry needling. Dry needling can be used for various pathologies but generally reduces muscular spasms to reduce pain and increase the range of motion.⁴

Research Question:

Does dry needling have a significant immediate impact on low back pain, thus increasing the range of motion long term?

Methods

The patient was referred to a chiropractor who reevaluated him. It was then decided that the best course of action would be to try dry needling. A monofilament needle was inserted into the musculature surrounding the SI joints bilaterally (Figure 1). The needles were left in place within the myofascial trigger point for approximately 8 minutes before release. After the trigger point relaxes the needle is removed.⁵ After a day for recovery, the athlete continued treatment like before.



Figure 1: Dry Needling of a Low Back By: The Spine Center of Baton Rouge¹ The Spine Center of Baton Rouge. Dry Needling. The Spine Center. <https://spinecenterbr.com/dry-needling/>. Retrieved March 2023.



Figure 2: Patient's Pain Levels Through the Rehabilitation Process

Results and Conclusion

Results:

Within two days of the first dry needling session, the athlete returned to nearly pain-free motion and an increased range of motion overall. The athlete has since returned to normal practice with zero pain (Figure 2).

Conclusions:

The results of this treatment align with many other studies performed on similar pathologies.² Dry needling may not be absolutely necessary for treatment but can make a significant impact on pain levels as well as how quickly a person can return to normal activity.^{3,6} Dry needling played a significant role in the return of this athlete to his sport. Considering the implications of the results found in this athlete, how effective could dry needling be in a non-athlete with persistent back pain?

Future Work

1. Determine the effectiveness of dry needling in a non-athlete.
2. Determine the difference in results between one session of dry needling versus several.
3. Consider different types of dry needling and their effectiveness on this condition.

References and Acknowledgments

1. The Spine Center of Baton Rouge. Dry Needling. The Spine Center. <https://spinecenterbr.com/dry-needling/>. Retrieved March 2023.
2. Rogge J, Krause DA. Use of Trigger Point Dry Needling as a Component of a Rehabilitation Program for a Patient with Nonspecific Chronic Low Back Pain and a History of a Lumbar Discectomy. *Orthop Phys Ther Pract*. 2019;31(3):136-142.
3. Koppenhaver SL, Walker MJ, Rettig C, et al. The association between dry needling-induced twitch response and change in pain and muscle function in patients with low back pain: a quasi-experimental study. *Physiotherapy*. 2017;103(2):131-137. doi:10.1016/j.physio.2016.05.002
4. Kalichman L, Vulfsons S. Dry Needling in the Management of Musculoskeletal Pain. *J Am Board Fam Med*. 2010;23(5):640-646. doi:10.3122/jabfm.2010.05.090296
5. Cagnie B, Dewitte V, Barbe T, Timmermans F, Delrue N, Meeus M. Physiologic Effects of Dry Needling. *Curr Pain Headache Rep*. 2013;17(8):348. doi:10.1007/s11916-013-0348-
6. Rayegani SM, Bayat M, Bahrami MH, Raeissadat SA, Kargozar E. Comparison of dry needling and physiotherapy in treatment of myofascial pain syndrome. *Clin Rheumatol*. 2014;33(6):859-864. doi:10.1007/s10067-013-2448-3

****Special thank you to Dr. John G. Coots for being the faculty sponsor on this Case Study Research Presentation****