

# Does Practicing Iyengar Yoga Improve Posture and Reduce Musculoskeletal Pain in Ophthalmologists? A Pilot Study

Kevin Eid, M.Sc.<sup>1</sup>, Amanda Herrera<sup>1</sup>, Michelle Akler, M.D.<sup>2</sup>

<sup>1</sup>Oakland University William Beaumont School of Medicine, Rochester, MI 48309, USA

<sup>2</sup>Akler Eye Center, Dearborn, MI 48124, USA

## Introduction

Poor ergonomics is increasingly being found to be a significant occupational hazard for ophthalmologists. Studies have shown that up to 81% of practicing ophthalmologists report episodes of musculoskeletal (MSK) discomfort, most commonly in the neck, shoulders and low back. The value of alleviating this discomfort through a practical approach requiring neither medications nor surgery is high.

Iyengar yoga is a method of yoga derived from the teachings of yoga master B.K.S Iyengar. It is distinguished from other styles of yoga by its emphasis on precise structural alignment, use of props and sequencing of poses as well as incorporation of all eight limbs of Ashtanga yoga into the practice of the poses. Numerous studies have shown Iyengar yoga practice to be effective in alleviating low back pain. We hypothesize that participation in a straightforward online instructional Iyengar yoga video produced by Dr. Akler, a practicing ophthalmologist and a certified Iyengar yoga teacher, will reduce MSK discomfort and increase awareness of proper ergonomics in the clinic and operating room.

## Aims and Objectives

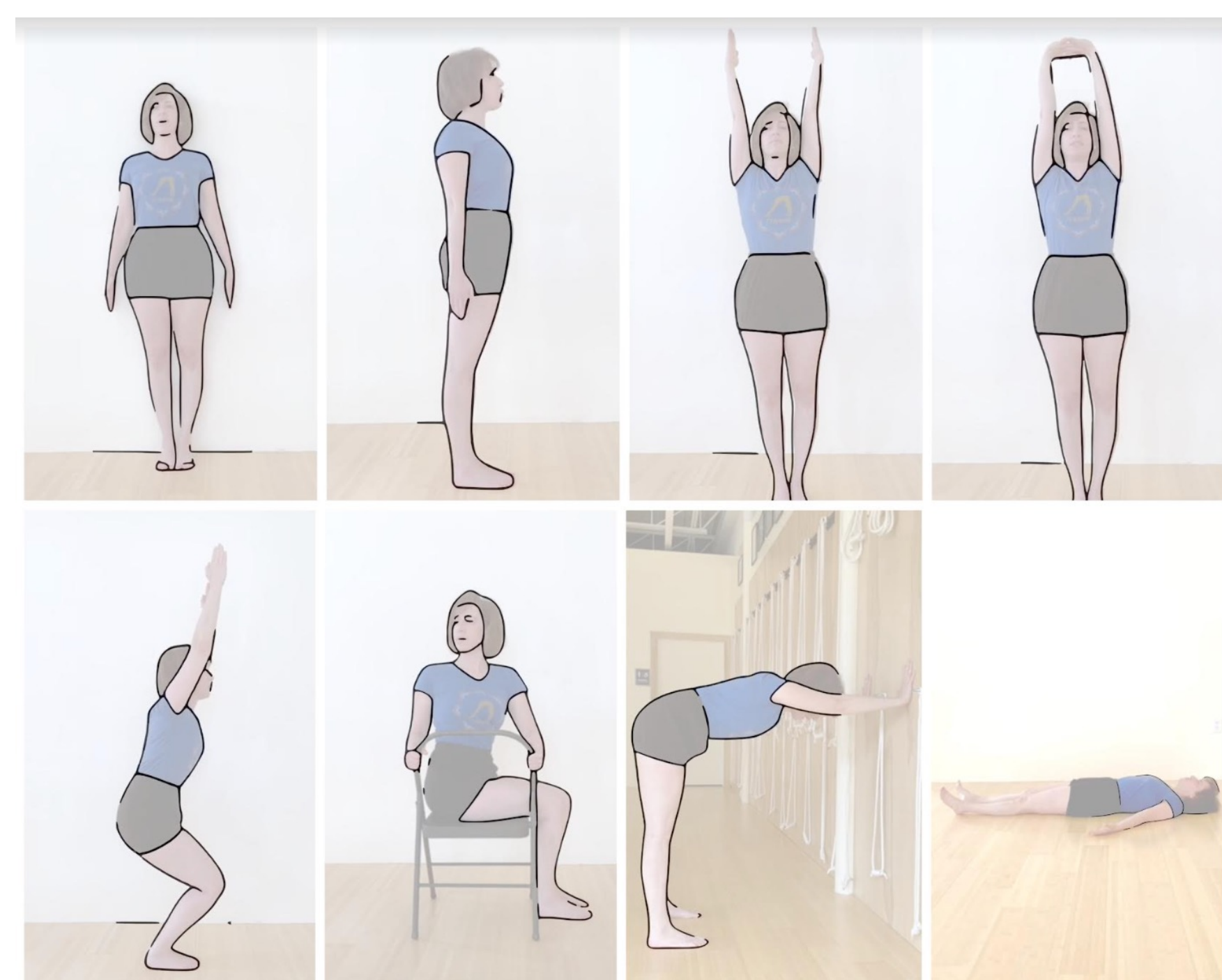
To evaluate the prevalence of musculoskeletal (MSK) complaints in ophthalmic surgeons and to assess whether participation in an online Iyengar yoga video program improves the baseline pain scores and awareness of proper posture in the clinic and operating room.

## Methods

Non-randomized prospective study of 50 ophthalmologists recruited from online professional forums. A pre-intervention survey including demographics, office and procedure volumes, wellness activities, baseline MSK pain scores, and a quality of life Likert-scale questionnaire were completed. A fifteen-minute instructional video focusing on simple yoga poses for the neck, shoulder, and lower back created by the author, who is both an ophthalmologist and a certified Iyengar yoga teacher, was provided to the participants to complete three times weekly for a total of four weeks. A post-survey collecting MSK pain scores, and information about ergonomics and compliance with the intervention was completed.

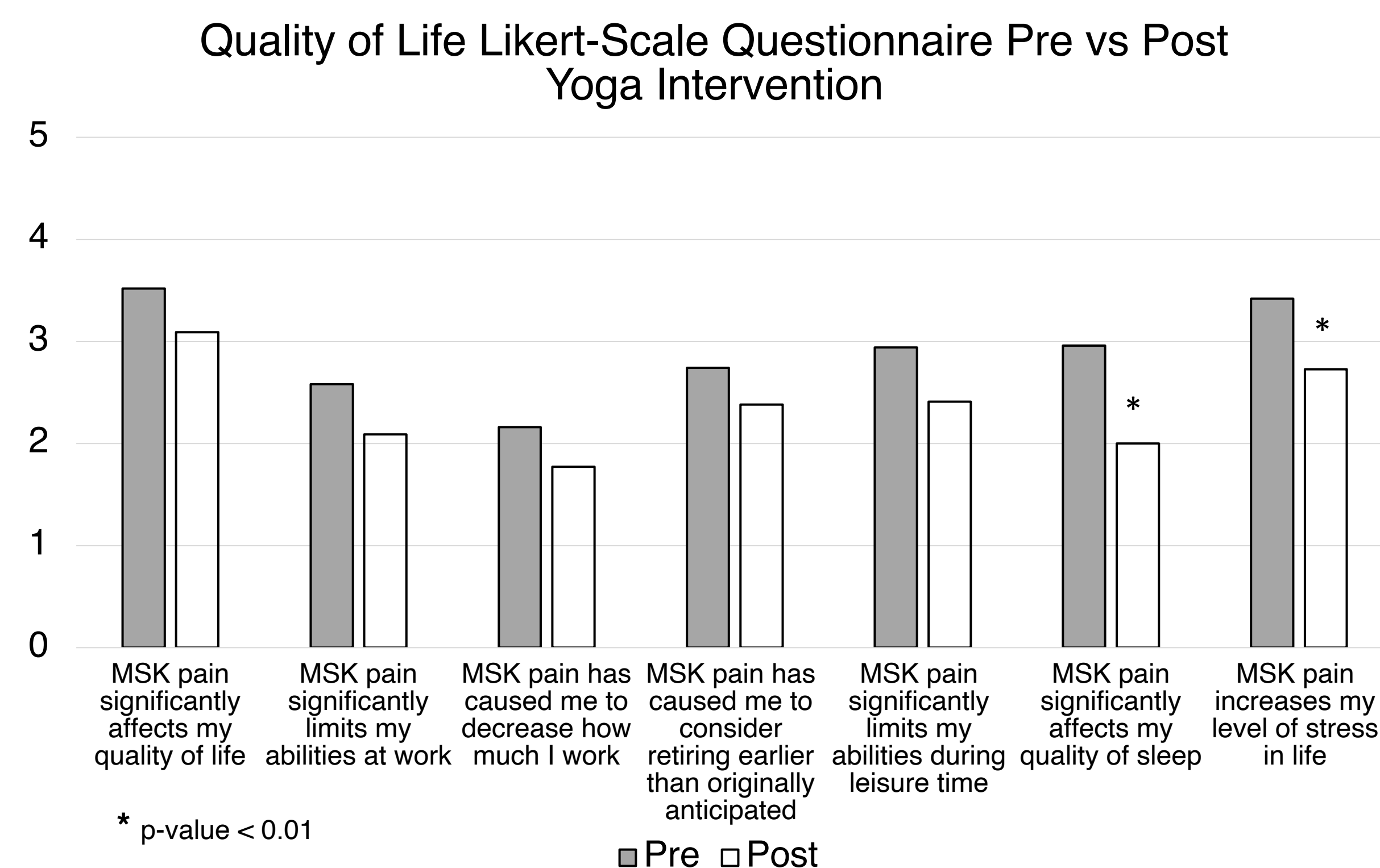
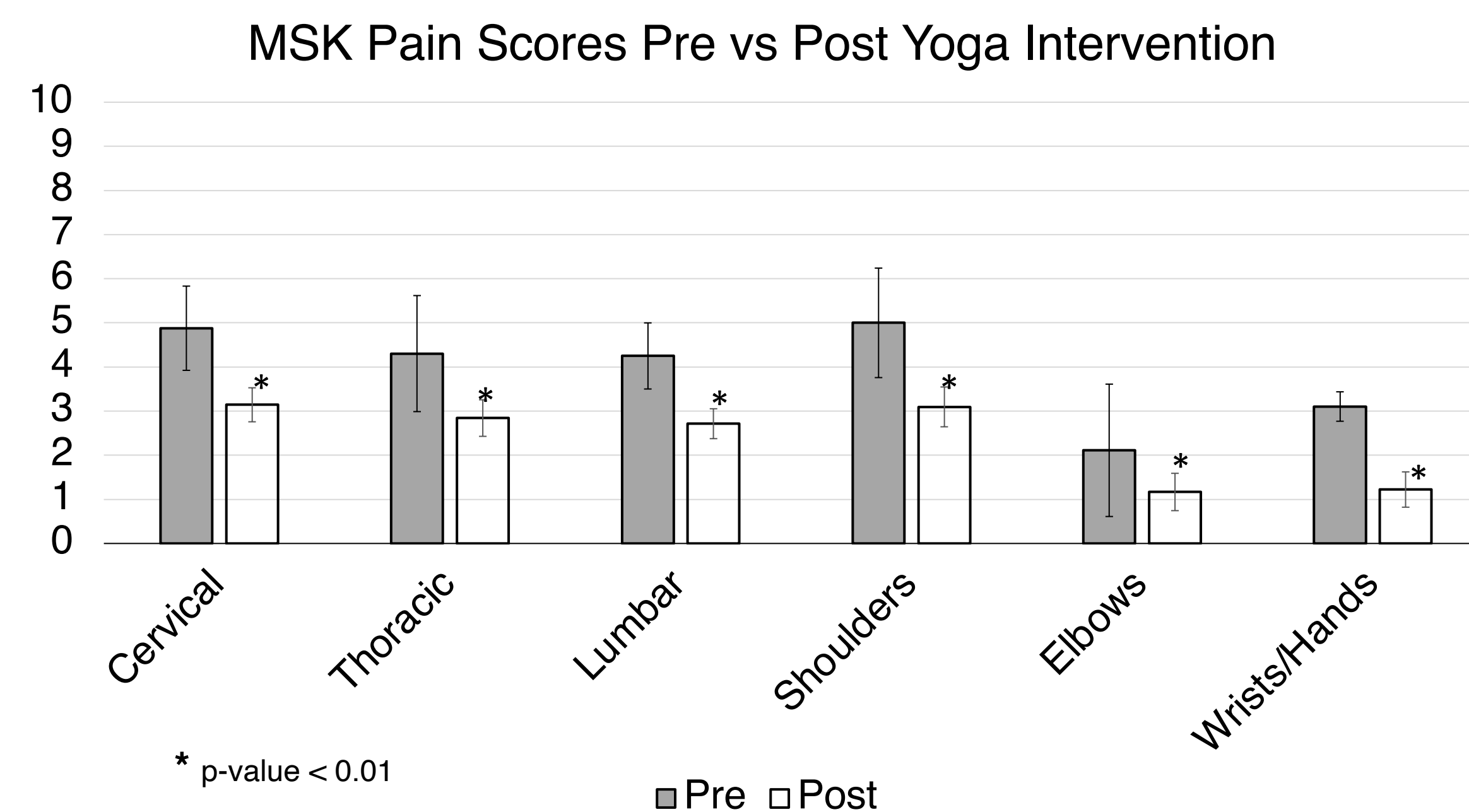
Quality of life survey responses were graded on a 5-point Likert scale: strongly disagree being worth 1 point, disagree worth 2, neutral worth 3, agree worth 4, and strongly agree worth 5. Chi squared analysis was used to compare pre and post survey quality of life questionnaire responses.

MSK pain scores were reported on a scale from 1 to 10. These scores were averaged, and a Welch's t-test was performed to compare the pre and post survey pain scores.

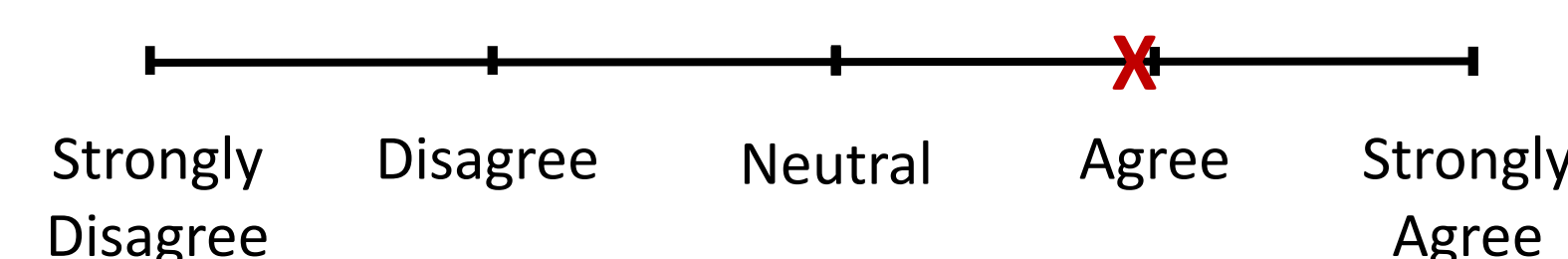


**Figure 1:** Eight of the main poses that are present in the 15-minute Iyengar yoga video

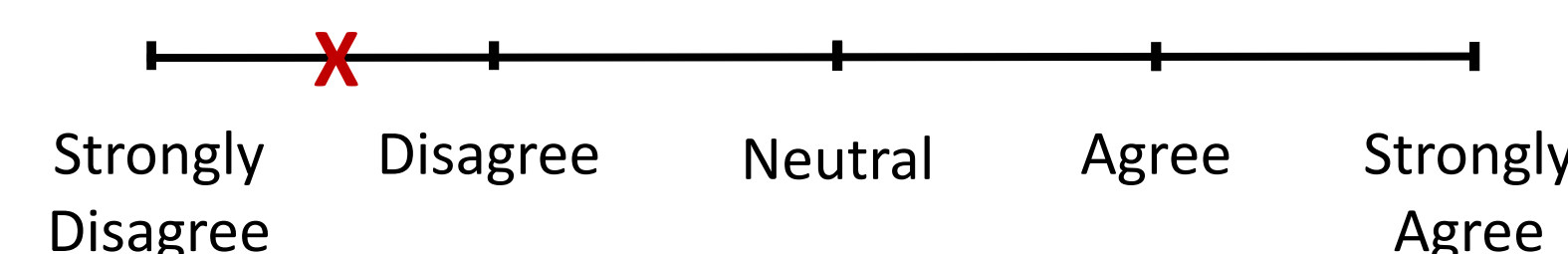
## Results



I believe that the yoga intervention helped alleviate my MSK pain



I believe that the yoga intervention worsened my MSK pain



## Conclusions

- The pre-survey highlights just how much of an issue MSK pain is with practicing ophthalmologists: 98% of participants reported at least 1 episode of MSK discomfort in the last year, with 18% reporting monthly pain, 42% reporting weekly pain, and 32% reporting the pain was daily.
- Post-intervention reduction in cervical, shoulder, upper and lower back pain, elbows, and wrists/hands were all statistically significant in the study group.
- Post-intervention improvements in quality of sleep and stress level also achieved statistical significance.
- 91% of respondents reported improved awareness of their posture in the clinic and operating room after the intervention, and 90% of respondents felt this awareness would decrease their MSK symptoms.
- 95% of post-survey respondents also reported that they would be interested in participating in more online Iyengar yoga videos or classes.
- Limitations of the study include there being a high attrition rate of 56% before the post-survey was collected, and a higher proportion of women (82%) enrolled in the study compared to men (18%).

## References

- Bertelmann, T., et al. (2021). Prevalence of back pain among German ophthalmologists. *Ophthalmic Research*, 64(6), 974–982. <https://doi.org/10.1159/000517574>
- Betsch, D., et al. (2020). Ergonomics in the operating room: It doesn't hurt to think about it, but it may hurt not to! *Canadian Journal of Ophthalmology*, 55(3), 17–21. <https://doi.org/10.1016/j.cjco.2020.04.004>
- Crow, E. M., et al. (2015). Effectiveness of Iyengar yoga in treating spinal (back and neck) pain: A systematic review. *International Journal of Yoga*, 8(1), 3. <https://doi.org/10.4103/0973-6131.146046>
- Nambi, G. S., et al. (2014). Changes in pain intensity and health related quality of life with Iyengar yoga in nonspecific chronic low back pain: A randomized controlled study. *International Journal of Yoga*, 7(1), 48. <https://doi.org/10.4103/0973-6131.123481>
- Williams, K. A., et al. (2005). Effect of Iyengar yoga therapy for chronic low back pain. *Pain*, 115(1), 107–117. <https://doi.org/10.1016/j.pain.2005.02.016>