THE OHIO STATE UNIVERSITY
COLLEGE OF OPTOMETRY

Seasonal Changes in Reported Comfort in Established Scleral Lens Wearers

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PURPOSE

Scleral lenses have become a common tool for vision correction in recent years due to their ability to offer exceptional vision and improved comfort for patients with irregular corneas. These lenses have been used increasingly for those with symptoms of dry eye due to their limited movement and ability to bathe the ocular surface in constant fluid. Symptoms of dry eye are often measured with the ocular surface disease index (OSDI). Various factors can affect the ODSI scores of patients. This study compares the OSDI scores of established scleral lens wearers during winter and summer months in central Ohio.

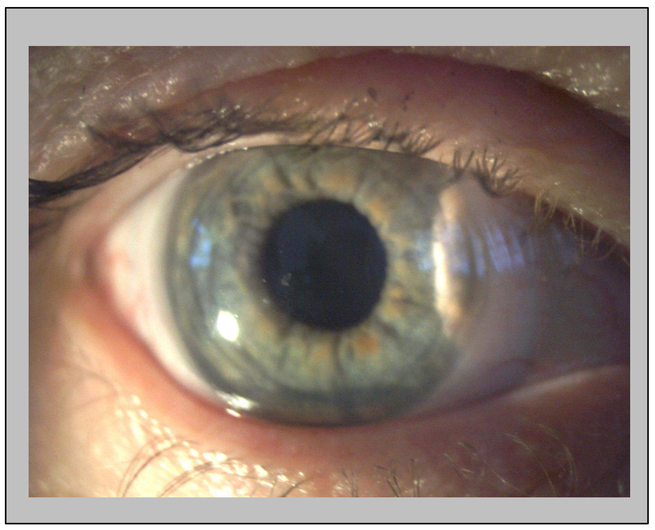

Figure 1. Scleral lens on cornea. Injection of conjunctival vessels and debris under lens are evident. Scleral lens wearers often suffer with symptoms of discomfort and midday fogging.

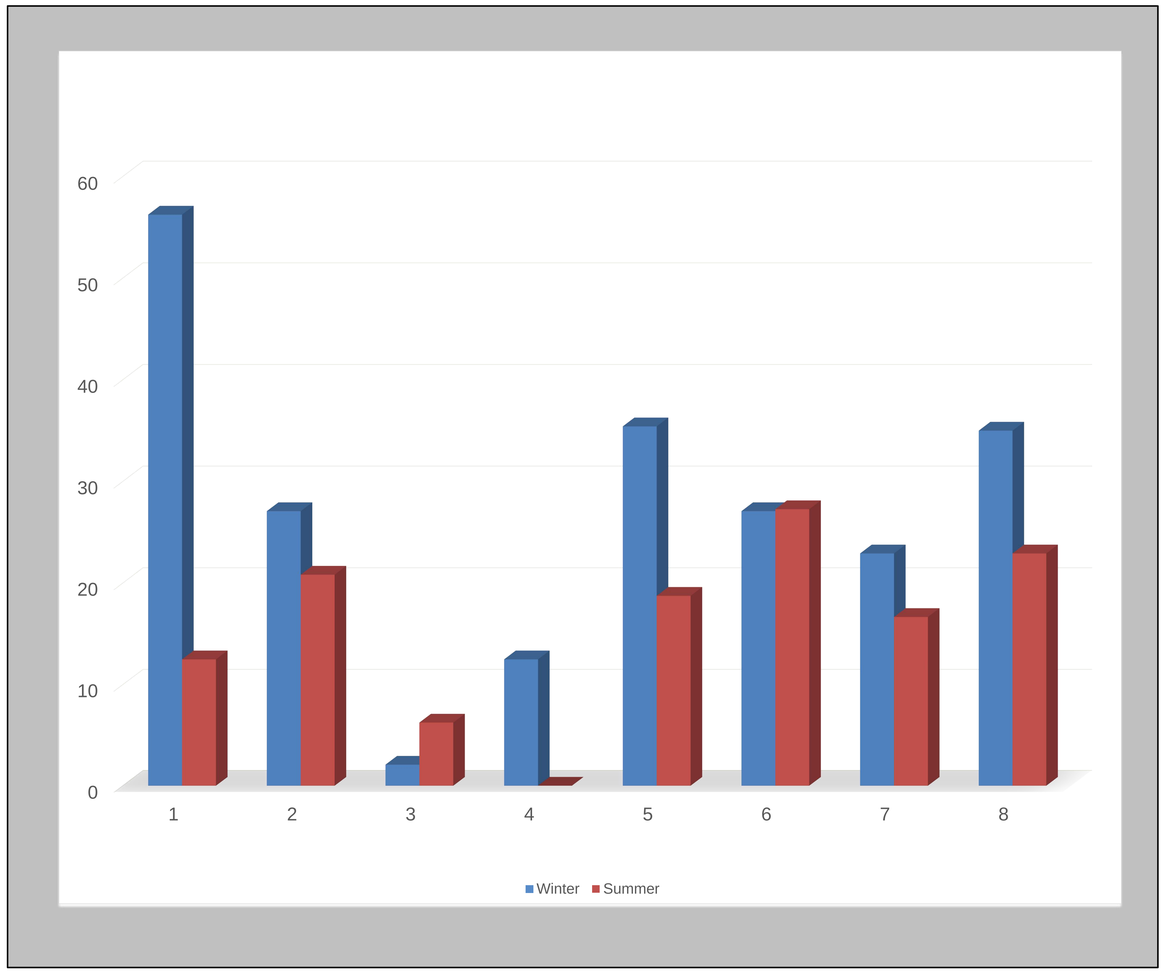

Figure 2. OSDI scores of eight scleral lens wearers in winter of 2017 compared to summer of 2018.

METHODS

Eight established scleral lens wearers were seen at The Ohio State University College of Optometry completed the OSDI survey to assess their comfort. The wearers were examined for any complications from their lenses or active diseases. All the wearers had worn their current lenses for at least 3 months, and the fit was reassessed at the time of the exam to assure clinically acceptable fit and stable vision.

Nine of the wearers were seen again approximately six months later and had the same testing regimen and surveys performed. The wearers were all using the same filling and cleaning solutions, and none reported significant changes in wear schedule.

RESULTS

The mean OSDI scores revealed a decrease (improved comfort) from 27.29 (± 16.20) in the winter of 2017 compared to 15.65 (± 9.01) in the summer of 2018, although the difference is not statistically significant in this small sample size (p=0.06). Six wearers were graded to have increased comfort, one was graded to be stable, and one showed a decrease.

CONCLUSIONS

These findings suggest that despite a constant source of moisture and relatively stable corneal surroundings, environmental conditions remain a very important factor in the comfort of scleral lens wearers.