



THE OCULAR IMMUNOLOGY  
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*Dedicated to Eye Disease Cure and Education*

## Scleral Lenses

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**Objective:** To describe the therapeutic benefits of non-fenestrated gas permeable scleral contact lenses (GPSCL) in the management of patients with ocular surface disease.

**Design:** A retrospective case series.

**Participants:** Data on 49 patients (76 eyes) with ocular surface disease whose management included the use of GPSCL were analyzed.

**Intervention:** A customized data collection form was used to collect demographic and clinical data. We developed an instrument to assess the impact of GPSCL wear on subjective aspects of activities of daily living. This questionnaire addressed modification of symptoms such as photophobia and discomfort, wearing time, and handling difficulties.

**Main Outcome Measures:** Visual acuity, ocular surface integrity, patient symptoms, and quantity and quality of wearing time.

**Results:** Data on 49 patients were analyzed. Thirty-one of the patients were female and 18 were male, ages 3 to 87 years. The most common indication for GPSCL fitting in this group of patients was Stevens John Syndrome (SJS) (71% of the total of eyes). Other indications for GPSCL fitting were ocular cicatricial pemphigoid (5 eyes), exposure keratitis (4 eyes), toxic epidermal necrolysis (4 eyes), post herpetic keratitis (3 eyes), congenital deficiency of meibomian glands (2 eyes), superior limbal keratoconjunctivitis (2 eyes), Sjogren's syndrome (1 eye), and inflammatory corneal degeneration (1 eye). Improvement in visual acuity (2 or more Snellen lines) occurred in 52.6% of the eyes. Forty-eight percent of the eyes with a history of epithelial defects have not had recurrences of epithelial erosion since GPSCL fitting. Additionally, healing of epithelial defects was observed in 53.3% of the eyes with an epithelial defect at the time of GPSCL fitting. Ninety-two percent of the patients reported improvement in their quality of life as a result of reduction of photophobia and discomfort.

**Conclusions:** GPSCL wear provides an additional safe and effective strategy in the management and visual rehabilitation of patients with severe ocular surface disease.

Other studies referenced below confirm our findings regarding the use of GPSCL in patients with moderate to severe ocular surface disease.

## References

- 1) Romero-Rangel T, Stavrou P, Cotter J, Rosenthal P, Baltatzis S, Foster CS. Gas-permeable scleral contact lens therapy in ocular surface disease. *Am J Ophthalmol.* 2000;130(1):25-32.
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- 3) Harthan JS, Shorter E. Therapeutic uses of scleral contact lenses for ocular surface disease: patient selection and special considerations. *Clin Optom (Auckl).* 2018;10:65-74.