

# ***Clinical Performance Of A Semi Scleral Contact Lens Design In Irregular Cornea***

## ***Abstract***

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**Objectives:** To evaluate the visual rehabilitation obtained with a semi-scleral contact lens namely Rose K2 XL in the management of the irregular cornea.

**Methods:** This retrospective study included 36 eyes of 22 subjects with irregular cornea fitted with Rose K2 XL. A diagnostic trial set was used in the fitting process. Once the trial lens was considered optimal, a final lens was ordered from the manufacturer with the necessary changes in power, edge lift and diameter. Demographic data, etiology prior to lens fitting, number of trial lenses, fitting parameters were recorded. Patient refraction, visual outcomes, contrast sensitivity and glare levels, duration of lens use, comfort grades, causes of lens discontinuation were analyzed.

**Results:** The most common indication for lenses fitting was keratoconus in patients who had to stop wearing other types of corneal lenses. Other indications included pellucid marginal degeneration (PMD), post LASIK ectasia, corneal irregularity following penetrating keratoplasty or corneal scar resulted from trauma or healed ulcer. Mean follow-up was 11±2 months. An average of 1.6 ordered lenses (range: 1–3) were necessary to achieve the optimal fit. Average logMAR visual acuity improved significantly from 0.91 without correction to 0.08 after lens wear ( $p < 0.001$ ). Similarly, contrast sensitivity and glare tests were significantly improved with Rose K2 XL lenses. Mean wearing time of Rose K2 XL was 14.3 hours per day (range: 6-16). Statistical analysis of the subjective responses indicated a strong acceptance of the lens by most of the patients. 4 patients (6 eyes) failed to continue wearing of the lenses due to discomfort (2 patient), handling problems (1 patient) and unsatisfactory visual acuity (1 patient).

**Conclusion:** Rose K2 XL is Mini-scleral gas-permeable contact lenses that provide a good option for patients with irregular cornea. They provide optimal visual function with high comfort and patient satisfaction especially when conventional contact lenses have failed and where surgery is undesirable or contraindicated.