

**M Optom Graduate publishes her work on Scleral lenses in
Ophthalmic and Physiological Optics**



Ms. Akshaya C Balakrishnan

The research work of Ms Akshaya C Balakrishnan M.optom student from Elite school of Optometry in collaboration with SASTRA University got accepted in the prestigious journal of Ophthalmic and Physiological Optics. The title of the paper is "**Fluid reservoir thickness and aberration relationship in keratoconic eyes with Scleral lenses**". This project was initially started under Late Dr. Rajeswari Mahadevan then continued under the supervision of Mr Asif Iqbal and co-guides were Ms Aparna Badrinarayanan, Mr Mahesh kumar and Dr S Viswanathan.

The study was on scleral lenses, which are of specially designed large diameter RGP lens and are considered as a preferable management option for keratoconus. They cover the entire cornea and rest on the sclera. A fluid reservoir of normal unpreserved saline and tear is maintained between the scleral lens and the cornea. This fluid reservoir masks the corneal irregularities provides best vision and keeps the cornea hydrated. Fluid reservoir can be measured in microns and it varies with patient, disease and lens design. This study aimed to investigate the effect of varying range of fluid reservoir thickness (FRT) of scleral lenses on vision, contrast and higher order aberrations in 40 keratoconic eyes.

It reported that all 3 fluid reservoir thickness showed same effectiveness in reducing aberrations thus improving contrast and vision. More effective vision and contrast was found in low and standard fluid reservoir lenses respectively. There was also a decrease in vision seen during an increase in fluid reservoir thickness. The higher amount of fluid reservoir thickness with Scleral lens can cause corneal swelling and also decrease vision (fishbowl effect) with long time wear of lens.

Our study concluded that any of the three fluid reservoirs can be selected for the management but fluid thickness should be selected to the reported range to avoid the compromise in vision and corneal health.

This study will help the specialty contact lens practitioners to understand the effect of different amount of fluid reservoirs on visual performance and help them to prescribe an ideal scleral lens in keratoconic eyes.

ESO wishes Ms Akshaya the best in her endeavours.