

Contact Lens Management Post-Sccleral Buckling

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Introduction

- Rhegmatogenous retinal detachment (RRD) occurs in about 1 to 10.5 in 10,000 people per year
- SB is the most common means of repair for RRD in young adult patients.
- SB compresses the eye circumferentially, causing myopic shifts, axial length elongation, and even structural scleral alterations.
- Eyes post-SB surgery typically require medically necessary contact lenses due to their highly myopic refractive error.
- An irregular anterior scleral contour due to the SB may raise potential challenges when fitting contact lenses.

Case Report

A 23-year-old Indian male with pathological myopia presents for an annual soft contact lens evaluation. He reports blurry, distorted vision with his right contact lens that improves when he pushes his lateral lid down against his globe.

Ocular History

- Treated retinopathy of prematurity at birth OU with peripheral laser ablation in 1998
- Scleral buckle and cryotherapy s/p tractional retinal detachment OD in 2009
- Degenerative high myopia OD>OS
- Intermittent exotropia

Visual Acuity with Habitual Contacts:

OD: distorted 20/30-, OS: 20/30

Anterior Segment Evaluation:

OD: buckle visible and prominent under nasal bulbar conjunctiva, no exposure, clear cornea

Posterior Segment Evaluation:

OU: retina attached with peripheral chorioretinal scars 360

Treatment & Management

Initial Contact Lenses:

Eye	Lens Design	Base Curve	Diameter	Rx	DVA
OD	Biofinity XR	8.6	14.0	-17.00 DS	20/30 distorted
OS	Alden HP Toric	8.3	14.3	-12.75 -2.25 x 155	20/30

Initial Lens Assessment:

OD: inferior temporal decentration with excessive movement; topography over the contact lens revealed decentered optics

OS: centered, no rotation

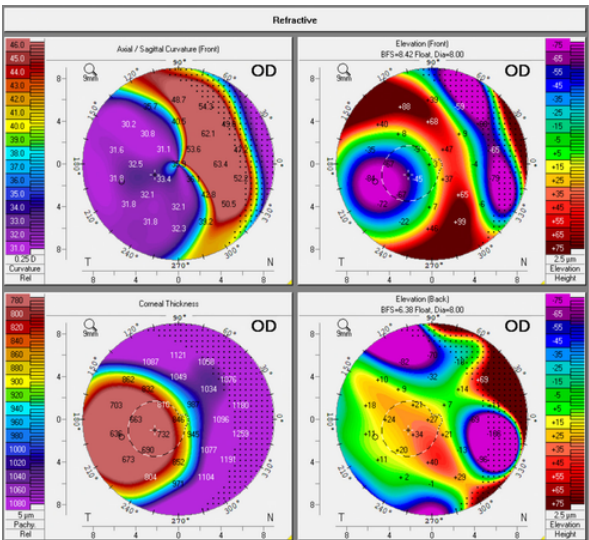


Figure 1: Scheimpflug tomography (Oculus Pentacam) over contact lens OD showing inferior-temporal decentered optics and induced irregular central astigmatism.

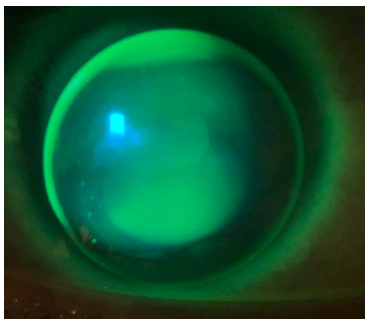


Figure 2: Final corneal GP lens OD revealing good centration and good alignment fit

Management & Re-Fitting:

The patient was re-fit into a small diameter gas-permeable lens to avoid any area of scleral touch. A diagnostic corneal GP lens was placed OD. Good vision, comfort, and fit resulted. A GP lens with the appropriate parameters and Rx was ordered for the patient.

Final Contact Lenses:

Eye	Lens Design	Base Curve	Diameter	Rx	DVA
OD	Valley Contax Tricurve	7.34	9.0	-15.75 DS	20/25+
OS	Alden HP Toric	8.3	14.3	-12.75 -2.25 x 155	20/30

Outcomes:

After 3 weeks of wearing the updated GP lens OD, the patient reported subjective improvement in visual acuity with no distortions or discomfort.

Discussion

Both rhegmatogenous retinal detachments and scleral buckles may produce significant changes in the eye, with modifications to the conjunctival and scleral anatomy. Globe shape alterations after buckling may be irreversible. As a result, fitting soft contact lenses on these post-surgical eyes may be a challenge. Due to the irregular scleral contour, conventional soft contact lenses may decenter causing optical aberrations. Topography scans over the soft contact lenses may provide clinicians with additional information regarding lens centration and optical quality. Since post-scleral buckling eyes are typically highly myopic, even small amounts of lens decentration may cause visual blur. In these cases, corneal gas permeable lenses may provide better visual outcomes as they are not affected by the anatomy of the sclera.

Clinical Pearls

- Distorted vision may be an indicator of decentered contact lens optics, especially for patients with high refractive error.
- Topography scans over contacts may be helpful when troubleshooting.
- Consider corneal GP lenses when trying to avoid any scleral irregularities (scleral buckles, pingueculas, sutures, etc.) when fitting contacts.

References

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