scleral contact lenses for KC case management

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Normal Cornea
Keratoconic cornea

SIMI, MINI, SCLERAL LENSES ARE THE ULTIMATE IN G.P LENS COMFORT

- **Large diameter G.Ps provide a perfect combination of comfort and sharp –crispy vision.**



Design of Scleral Lens

Scleral Lens Categories

NAME	DIAMETER (MM)
Corneo-Scleral	12.9 to 13.5
Semi-Scleral	13.6 to 14.9
Mini-Scleral	15.0 to 18.0
Scleral	18.1 to 24+

Why Do We Fit a Scleral Lens?

THE PROS:

- *To vault highly irregular corneas*
- *Supporting edge of 2 mm on the sclera*
- *To provide better visual acuity than soft lenses*
- *To prevent lost lenses*
- *New Oxygen permeable materials*

Why Do We Fit a Scleral Lens?

- *Very successful because the sclera bears the pressure of the lens.*
- *There by relieving the cornea*
- *The sclera is far less sensitive and therefore the lens is more comfortable.*
- *Scleral contact lenses are experiencing a resurgence among contact lens fitters.*

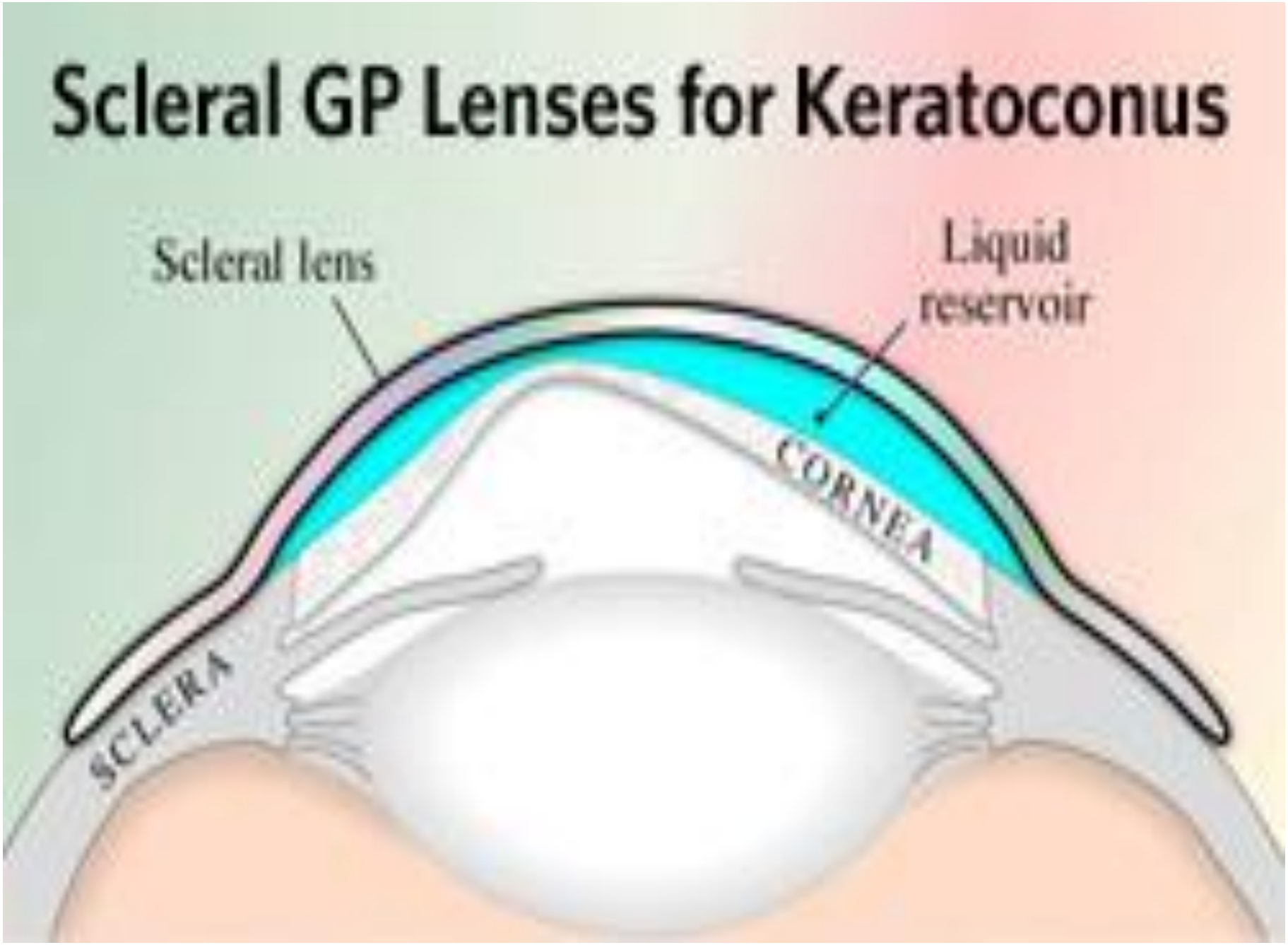
Why Do We Fit a Scleral Lens?

- scleral lenses are much easier to fit
- offer greater initial patient acceptance and reduced chair time
- Lens selection should be aided by an examination of the fluorescein Pattern
- It helps to place the fluorescein in cup of the lens at insertion.


Scleral lenses:
The ultimate in
GP lens comfort
Large-diameter GPs provide a perfect
combination of comfort & sharp vision.



Scleral GP Lenses for Keratoconus

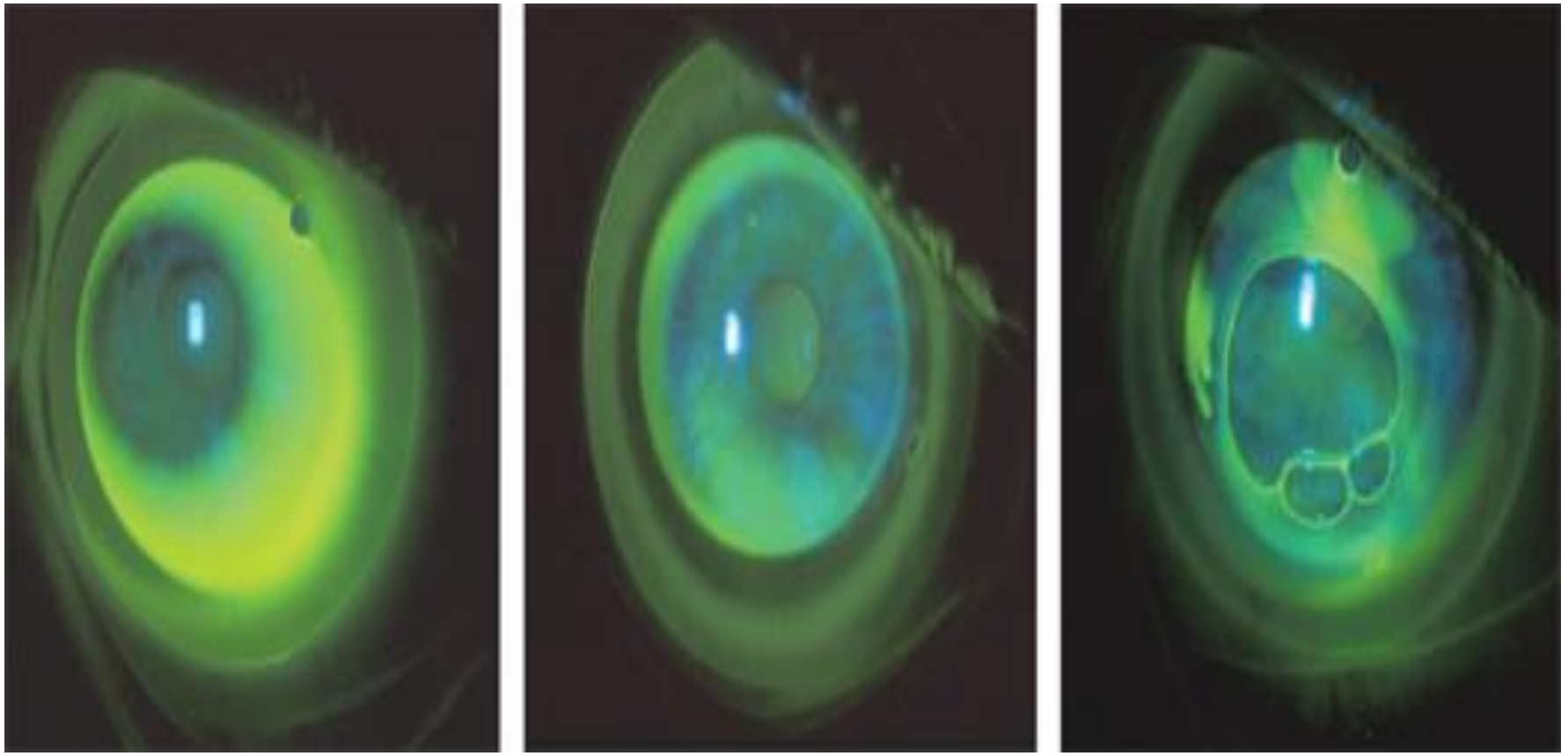


Too Much Vault 250 Micron Clearance



Ideal Vault 100 Micron Clearance





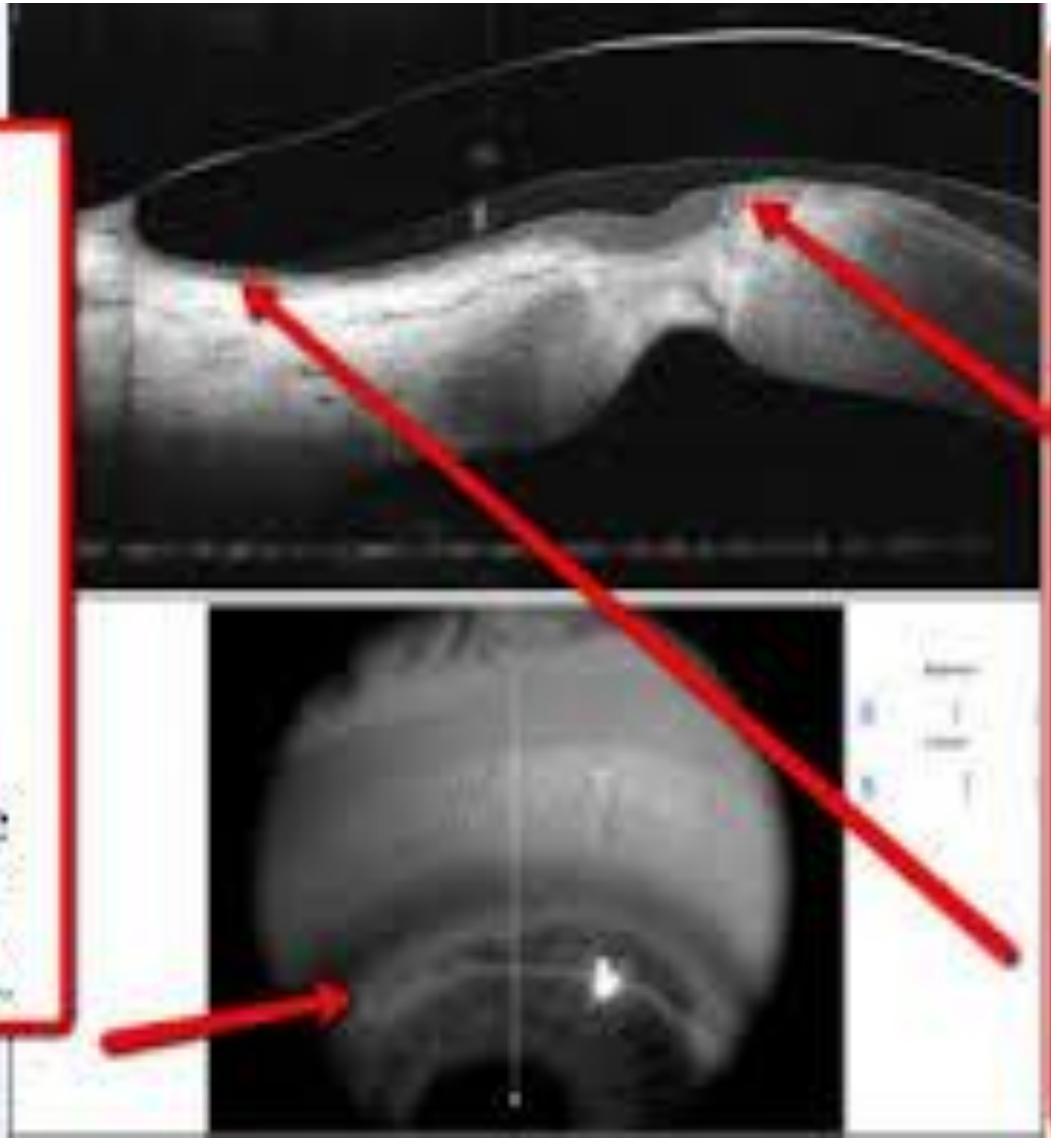
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Figure (left): shows low sagittal depth with excessive limbal clearance and an apical bearing central pattern.
Figure (center): shows an aligned sagittal depth with good limbal clearance and aligned central pattern.
Figure (right): shows excessive sagittal depth with minimal limbal clearance and a large central bubble ,or improper insertion.

Scleral Lens Modern Usage

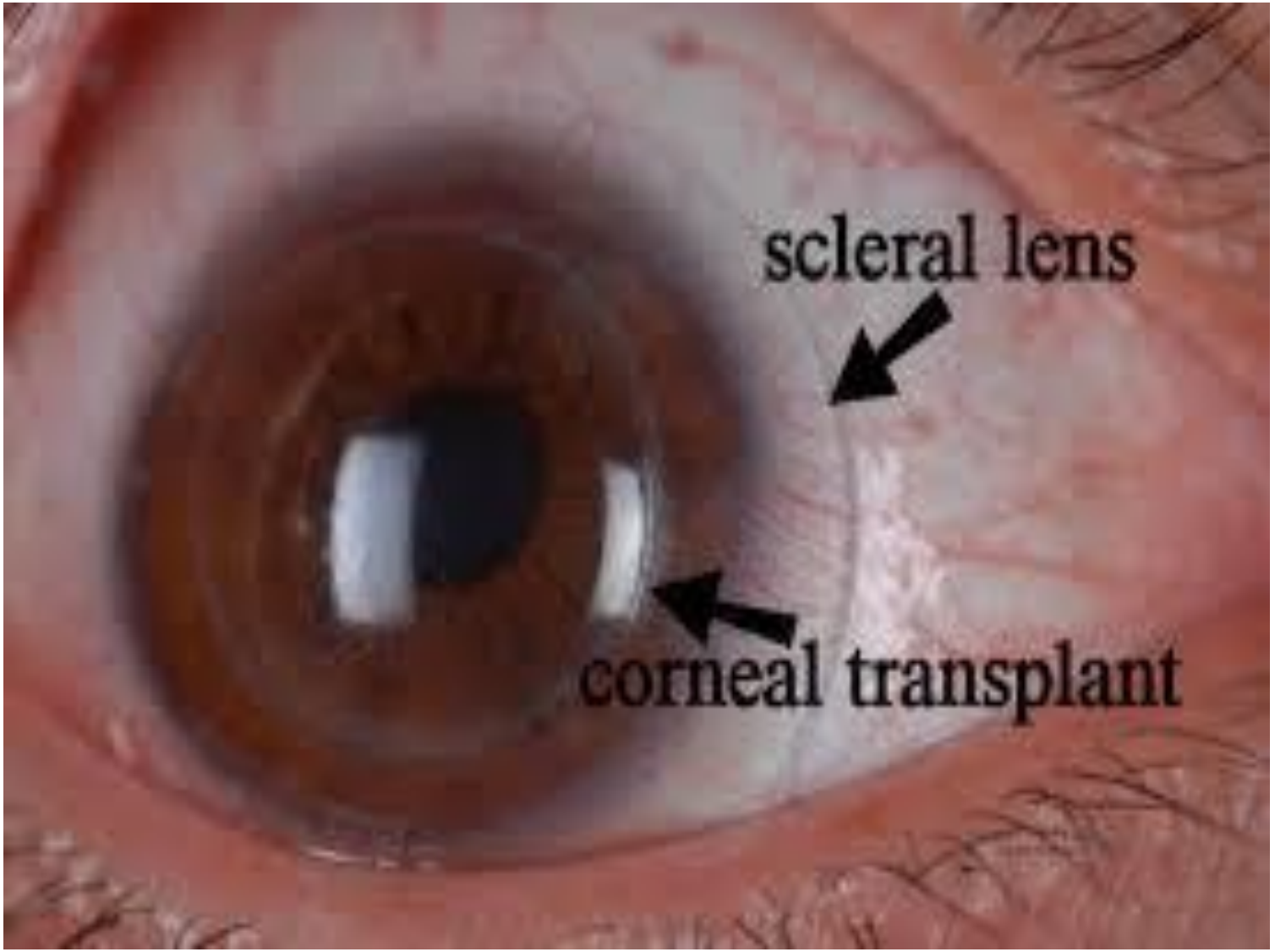


- Corneal disorders /surface diseases / dystro
- Corneal ectasia
- Injuries to the eye such as surgical complications
- Post-graft
- Post-refractive surgery
- Intolerance to other modalities
- High refractive errors (Myopia, Astigmatism)



The lower image shows a peripheral corneal thinning disease which needs to be untouched by the lens.

The semi-scleral lens vaults the area of thinning and rests on the healthy sclera.


scleral lens
corneal transplant

Scleral Lens Modern Usage

- Scleral lenses are successful for keratoconus, highly toric corneas, post-trauma, dry eye , including persistent epithelial defects .
- hypoxia complications
- Frequently, scleral lenses postpone or eliminate the need for further surgeries.

Clinical advantages of scleral lenses

- To improve Visual acuity
- To increase lenses comfort and stability
- reduce pain and light sensitivity
- To favor oxygen transmissibility
- To help to restore ocular health
- Valuable option for chronic ocular surface diseases

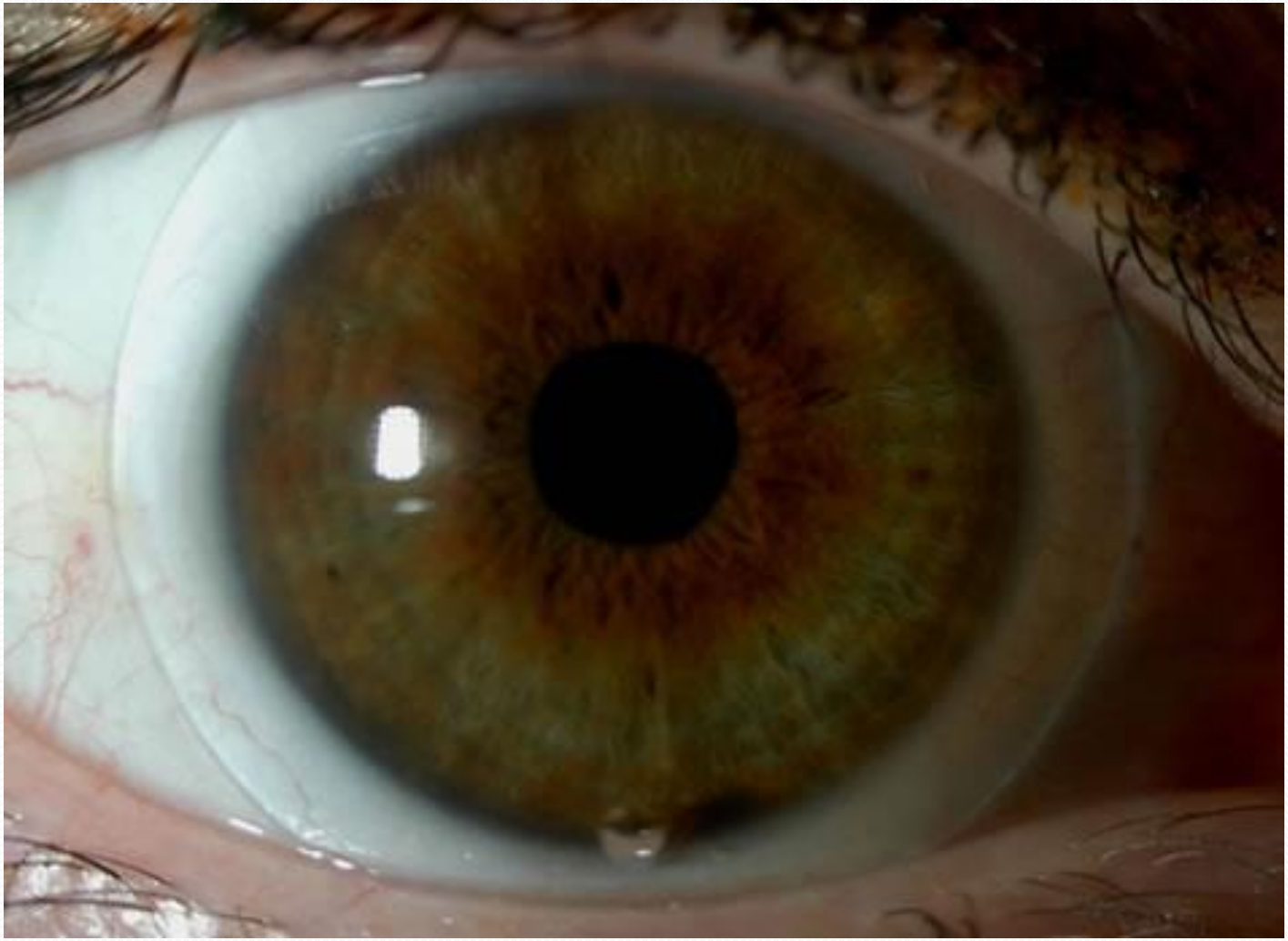
Why would an Ophthalmologist/Optometrist/Patient choose scleral design

- Better vision
- Higher degree of comfort for the patient (approx. 14 hours of comfortable wear time)
- Higher degree of oxygen permeability compared to traditional corneal lenses due to advanced materials, means healthier conditions for the cornea (high DK value)
- High degree of patient satisfaction

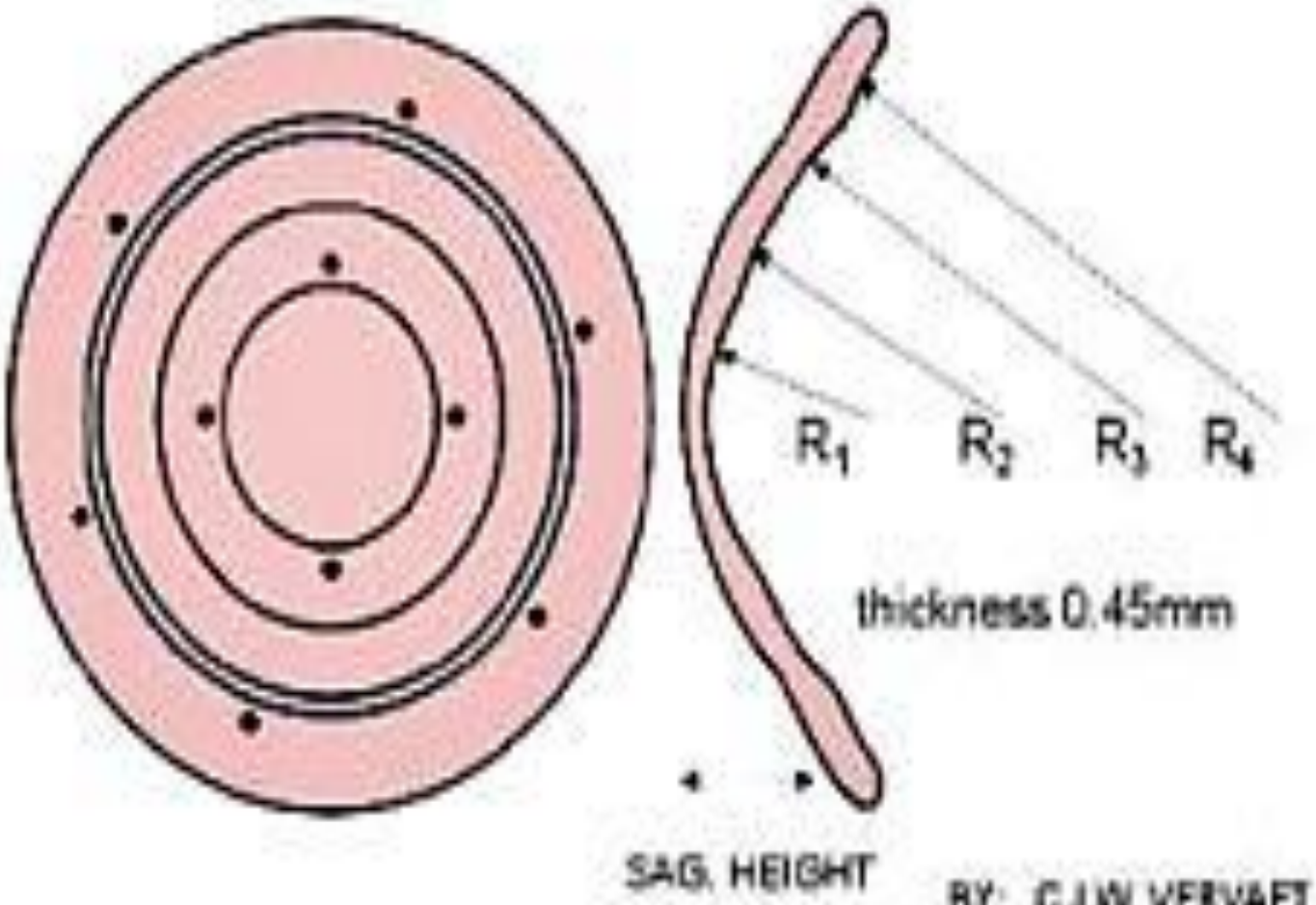
Why sclera makes a world of difference for your patient

- Designed with multiple curves to improve the fit on highly irregular corneas
- Exceptional comfort level
- High patient satisfaction
- Great stability

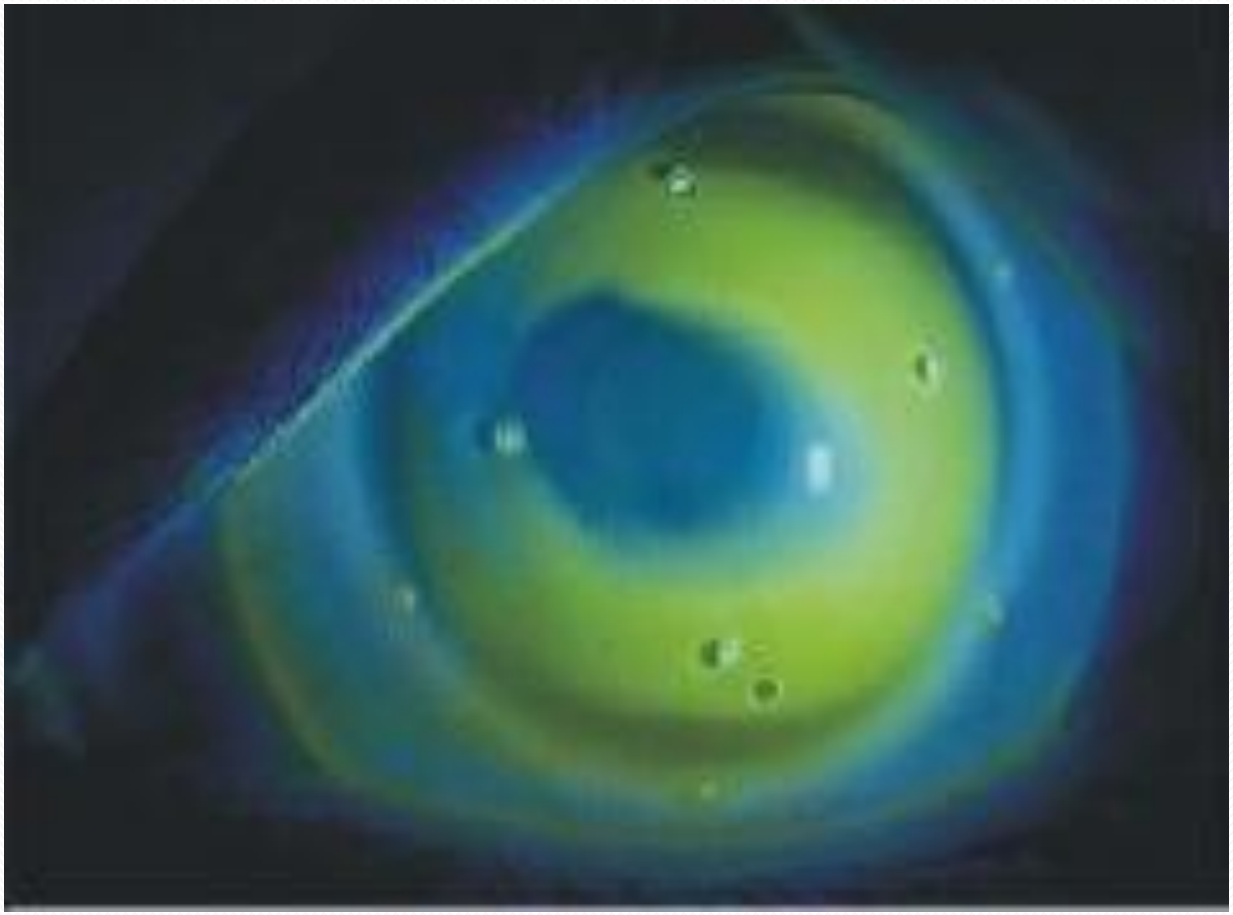
Contact lenses are rarely dislodge due to eye lid motion



Semiscleral Design



fluorescein evaluations are a key



THE DESIGN:

- 13.0mm, 13.5mm, 14.0mm,15.0mm
- Lathe cut
- Spherical back and front surfaces
- Can be available fenestrated or not fenestrated

Conclusion

- **Scleral lenses are part of modern treatment of corneal ectasia, post-surgery corneal restoration and chronic ocular surface disorders.**
- **Other applications include refractive errors or intolerance with other type of contact lenses.**
- **Relatively easy to fit with modern designs.**



Conclusion

- **To fit -Scleral lenses is a rewarding process.**
- **Better results are achieved over time.**
- **Scleral lenses should not be considered the last option any more.**

Thank You

