Herpes Simplex Keratitis (HSK) is a common corneal condition that can lead to scarring, poor corneal wound healing, and permanent vision loss. Management of HSK scarring with scleral lenses can be complicated by ocular surface disease. This case report will outline strategies for optimizing visual acuity and comfort when fitting scleral lenses on patients with corneal opacifications secondary to HSK and keratoconjunctivitis sicca.

A 55-year-old Caucasian female was referred for scleral lens fitting. Left eye visual acuity was limited by central corneal scarring due to previous HSK infection. Health history was remarkable for rheumatoid arthritis, which was treated with hydroxychloroquine and methotrexate. Entering visual acuities were 20/20 OD, 20/300 OS. The patient was fit in a 15.5mm Valley Custom Stable Elite® scleral lenses with 49/20 sag and 45.00 base curve OU. Lenses demonstrated good central clearance and aligned edges. BCVA in scleral lenses improved to 20/20 OD and 20/25 OS at diagnostic fitting. After 3 months of full-time scleral lens wear, the ocular surface showed consistent diffuse corneal staining and reduced corneal sensitivity. BCVA was reduced to 20/40* OS. Treatment with cyclosporine 0.05% q. 12th was initiated. After 1 month on cyclosporine with continued full time scleral lens wear, VA improved to a consistent 20/20* OS.

### Management Plan

- Full time scleral lens wear with Hydragep® coating
- Cyclosporine 0.05% q. 12h
- Refresh Optive® PF drops when not in lenses, Refresh PM ghs
- Referral to rheumatologist for management of systemic disease

### Results

#### 09/23/2021
- 3 mo. scleral lens wear, prior to cyclosporine Tx

#### 11/18/2021
- 5 mo. scleral lens wear, 2 mo. of cyclosporine Tx

<table>
<thead>
<tr>
<th>BCVA</th>
<th>20/40</th>
<th>20/20*</th>
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<tbody>
<tr>
<td>Conjunctiva</td>
<td>3+ diffuse injection</td>
<td>2+ staining with Lissamine Green</td>
</tr>
<tr>
<td>Cornea</td>
<td>Grade 2+ diffuse SPK, concentrated central and inferiorly</td>
<td>2 mm stromal haze, moderate reduction in stromal haze</td>
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### Discussion

This case highlights the benefit of dual therapy for patients with fluctuating visual acuity and diffuse corneal staining despite full time scleral lens wear. To optimize scleral lens outcomes, the follow therapies should be considered:
- cyclosporine 0.05% / lifitegrast 5% ophthalmic solution
- optimal management of underlying systemic disease
- lubricants of the ocular surface outside of lens wear
- cenegeamin-bld 0.002% (if decreased corneal sensation)
- diluted autologous serum drops to fill lens bowl
- selection of largest diameter scleral lens possible (see Figure 2c)

### Conclusion

Patient visual acuity and comfort in scleral lenses may be limited if underlying ocular surface disease is not managed appropriately with adjunct therapies.

### References