

Beyond Traditional Methods

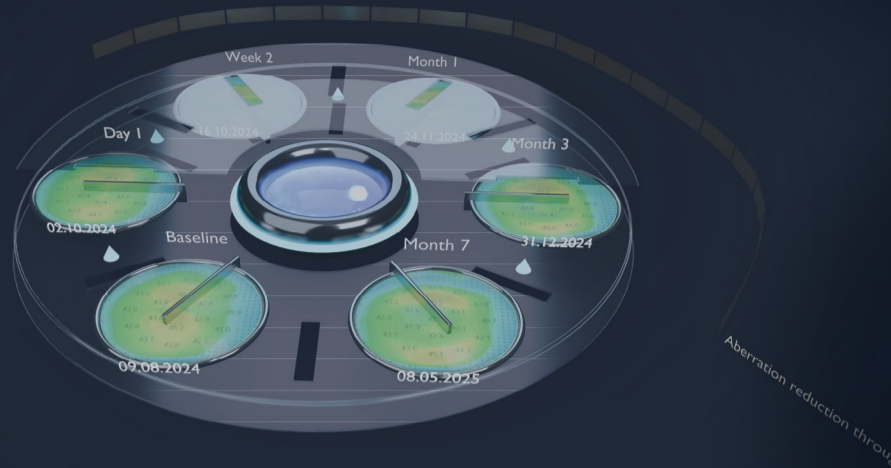
Solving Soft Contact Lens Intolerance through
Orthokeratology & Precision Maintenance

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PURPOSE

This case demonstrates the successful management of severe soft contact lens (SCL) intolerance using orthokeratology (Ortho-K) combined with a novel 'Double-BSS Rinsing' maintenance protocol. The highly motivated physician patient, ineligible for refractive surgery, achieved sustained visual correction and comfort through this innovative non-surgical approach.



CASE

Demographics

- 28-year-old male physician
- Long-term spectacle wearer
- Refused refractive surgery

Ocular Examination

- CCT: 468/475 μm
- BCVA: 20/20 OU
- OD: -1.50 -1.75x10°
- OS: -2.50 -2.00x175°
- NBUT: 9/10 sec (reduced)
- Cornea: clear, no staining

Persistent intolerance to all soft contact lenses with immediate discomfort within minutes of insertion.

Baseline
09.08.2024

Day 1
02.10.2024

Week 2
16.10.2024

Month 1
24.11.2024

Month 3
31.12.2024

Month 7
08.05.2025

1

LUBRICATE EYE

Instill 1 drop of preservative-free artificial tear into the eye (NOT onto the lens).
Wait at least 1 minute.

2

BSS RINSE

Remove lens from MPS solution.
Rinse both surfaces with pressurized BSS stream.
No rubbing required.

"DOUBLE-BSS RINSING" PROTOCOL

3

DIRECT INSERTION

Place lens vertically onto cornea without additional drops. No friction on the corneal surface.

4

REMOVAL & STORE

Remove lens from eye.
Rinse again with BSS.
Store in MPS solution until next use.

METHODS

Sequential SCL Trial (2 wks each)

- Lotrafilcon B (SiHy) - 33% H₂O
 - Senofilcon A (SiHy) - 38% H₂O
 - Comfilcon A (SiHy) - 48% H₂O
 - Samfilcon A (SiHy) - 46% H₂O
 - Senofilcon A DD - daily disposable
- **ALL FAILED: intolerance < 2 hours**

Ocular Surface Optimization

- Topical steroid (2-week pulse)
- Cyclosporine A 0.05% (long-term)
- PF sodium hyaluronate 0.15% + dexpanthenol

After 12 months of treatment, NBUT improved from 9 to 17 seconds. Despite ocular surface recovery, SCL intolerance persisted unchanged, confirming material-sensitivity rather than dry eye etiology.

ORTHO-K FITTING

Lens Selection

- NightFlex (SwissLens, Switzerland)
- Reverse-geometry design
- Dk/t: 180 (high O₂ transmissibility)

Wearing Schedule

- Nightly wear: 6-8 hours
- 1 lens-free day per week

Double-BSS Rinsing Protocol

Initiated from Day 1 to minimize deposit accumulation and maximize lens surface biocompatibility. This protocol replaces MPS as the final rinse step with preservative-free BSS, eliminating chemical preservative contact with the sensitive corneal surface.

RESULTS

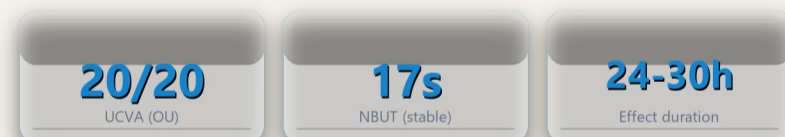
Month 1 (October 2024)

- UCVA: OD 20/20, OS 20/25
- Corneal topography: central flattening
- Mild visual shadows initially

Month 3 (December 2024)

- UCVA: 20/20 OU
- Complete comfort achieved
- Visual shadows fully resolved
- Stable topographic response

Month 7 - Current (May 2025)



- No dry eye symptoms or discomfort
- No corneal staining or complications
- Patient satisfaction: excellent

CONCLUSIONS

1. Orthokeratology is a viable, reversible, non-surgical vision correction for patients with severe SCL intolerance who refuse or are ineligible for refractive surgery.
2. The 'Double-BSS Rinsing' protocol bridges the critical adaptation period and ensures long-term comfort by preventing preservative-related surface irritation and protein buildup.
3. Comprehensive ocular surface optimization prior to Ortho-K fitting, while not resolving SCL intolerance, provides a healthier baseline for overnight lens wear.
4. Careful patient selection and a systematic, stepwise clinical approach are essential for successful outcomes in complex CL cases.