Annular Ring with Tint for Fixed Pupils

Getting Creative with Custom Soft Contact Lens

Alexa Westerbeck, OD

Berkeley Optometry & Vision Science

Introduction

Specialty tinted contact lenses serve many functional and aesthetic purposes, such as achromatopsia and aniridia. This patient had a long history of dissatisfaction with his gray tinted contact lenses for treatment of non-reactive pupils as a result of uveitis treated and evaluated by outside provider. He was attempting to achieve comfortable vision both indoors and outdoors, stating that his current gray lenses were not dark enough outside. He was initially fit in various tint colors and darkness without success, none were able to achieve the comfort he was looking for.

Case History and Exam

A **27 year old** presents for contact lens evaluation.

Chief Complaint: The last pair of tinted contact lenses are not dark enough.

Ocular History: History of uveitis in 2011 that rendered both pupils unreactive. The patient was treated and initially managed for tinted contact lenses at UCSF. He was referred to the Meredith Morgan Eye Center in 2015 for further evaluation for custom tinted contact lenses.

Medical History: Unremarkable

Anterior Segment:

OD: Fixed pupil ~6.25mm elongated vertically with peak sup/temp.

OS: Fixed pupil ~6.75mm round.

Current Contact Lenses:

OD: Kontur 55 Sphere / Dark Gray Tint / 8.60 / 15.0 / -0.50

OS: Kontur 55 Sphere / Dark Gray Tint / 8.60 / 15.0 / -0.25

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Methods

- Kontur Kontact Lens Co., Inc (Hercules, CA) custom tinted soft contact lenses were used.
    - Kontur Sphere, Daily Wear, 55% water (methafilcon A), 18.8 dk.
- An annular ring was trialed with the smallest pupil size possible (2mm). However, the patient felt his vision was negatively impacted and his light sensitivity was not improved.
- The pupil was then tinted to maximum darkness (90 minutes) in various pupil sizes (2mm, 3mm and 4mm).

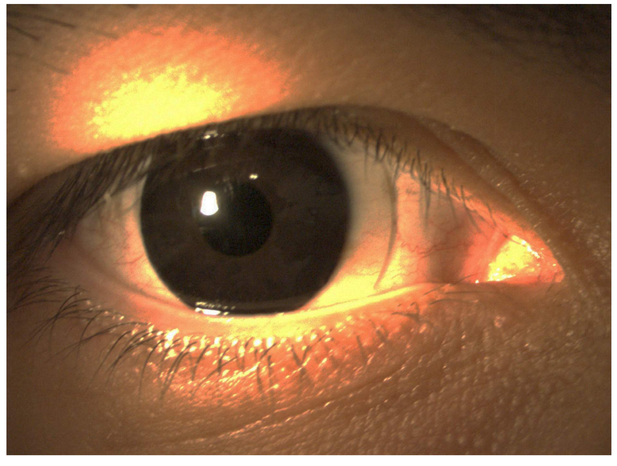

Figure 1: Opaque annular ring custom soft contact lens with maximum tinted center pupil.

Results

While the patient experienced dramatic improvement in his light sensitivity with an annular ring and tinted pupil, he felt that his field of vision was too constricted with all pupil sizes. Ultimately, he chose to revert back to his original lens design with a standard all over gray tint to minimum light transmission.

Table 1: Kontur 55 Lens Options

Lens	BC	DIA	Sphere	Cylinder	Axis
Kontur 55 Sphere	8.30,8.60, 8.90	15.0	+10.00 to -20.00	--	Any (in 1 degree steps). Orientation dot at 6:00
Kontur 55 Aphakic	8.30, 8.60, 8.90	15.0	+10.50 to +20.00	--	
Kontur 55 Toric Div I	8.30,8.60, 8.90	15.0	+4.00 to -6.00	-0.75 to -2.00	
Kontur 55 Toric Div II	8.30,8.60, 8.90	15.0, 16.0	+10.00 to -20.00	-0.75 to -3.50	
Kontur 55 Toric Div III	8.30,8.60, 8.90 8.00, 8.30	15.0, 16.0 14.0, 14.5	+10.00 to -20.00	-0.75 to -5.00	
Kontur 55 Toric Div IV	8.30, 8.60,8.90	15.0, 16.0	+10.00 to -20.00	-0.75 to -5.00	

Discussion

Although a custom soft lens with artificial pupil and overlying tint was not successful for this patient, there remains the possibility of this lens design working well for another patient with different expectations. It is imperative to set the proper expectations for patients with conditions requiring a custom tinted lens. The crucial point needs to be made to the patient that not one lens will suit all of their needs and that they will likely need more than one pair for different situations or a pair of sunglasses for wear over the contact lenses for bright conditions. Additionally, having a lab that is willing to work with you to find a solution for a patient is key. Kontur Kontact Lens Co., Inc. was instrumental in assisting in the care for this patient.

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