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# Prosthetic Contact Lens Masks Full Corneal Opacity Secondary to Trauma

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## INTRODUCTION

Prosthetic contact lenses can be utilized for a variety of clinical indications including:

- Altered light perception and symptomatic relief of glare or photophobia secondary to iris and pupil defects.
- Masking of ocular disfigurements secondary to birth defect, trauma, surgical complications, or other eye disease.
- Daily cosmetic wear for eye color change.

There are a variety of prosthetic contact lenses options available including soft and gas permeable options. Choice of lens design is tailored to the individual's visual and cosmetic needs. Soft prosthetic lenses allow for optimal comfort. Computer-printed soft prosthetic lenses are more reproducible and affordable than hand-painted designs.

## CASE PRESENTATION

A 52-year-old African American female had complete corneal opacification OD secondary to childhood trauma. The patient reported negative self-esteem due to her appearance, and she hoped to mask the abnormality with a prosthetic contact lens.

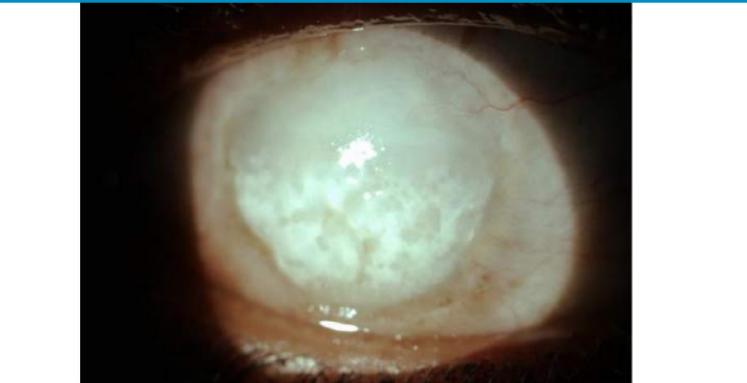
Visual acuity in the right eye was light perception (LP). Extraocular motilities were full range of motion; however, she had a constant right esotropia. Slit lamp examination revealed a dense, full white corneal opacity with overlying band keratopathy with an uneven surface OD (Figure 1). No posterior segment structures were visible. The left eye had good uncorrected vision (20/20-1) with normal anterior and posterior segment findings. Due to the full corneal opacity, ultrasound biometry (B-scan) was performed to evaluate the posterior segment health of the non-seeing eye. Results of the B-scan were unremarkable.

## DISCUSSION

The right eye was fit with a tinted Alden HP49 prosthetic soft contact lens with parameters: 8.6 / 14.50 / plano

### Figure 1

Dense, full white corneal opacity of the right eye.



### Figure 2

Variation of the walnut tint and the black pupil sizes. Image courtesy of Alden Optical.

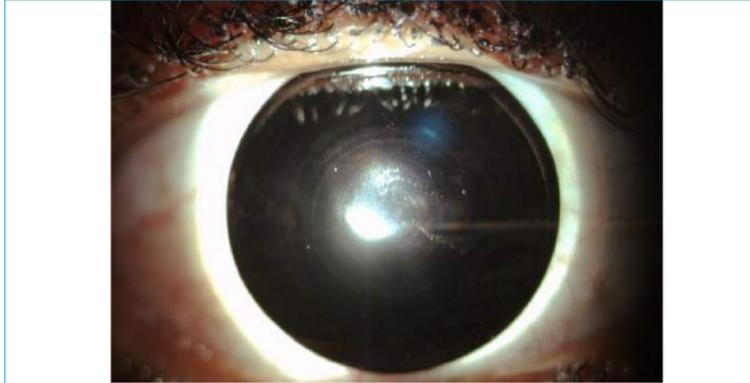


\*SHADES: #1 Light, #2 Medium, #3 Dark, #4 Very Dark, #5 Extremely Dark

While there was some surface irregularity, the soft lens exhibited good stability, centration and movement with blinks in all directions of gaze. To fully mask the corneal opacification, while simultaneously matching the fellow iris, a #5 walnut tint with iris diameter of 11.5mm was chosen. Customizable lens options for the walnut coloration are shown in Figure 2. A pupil diameter of black 4mm gave the most realistic appearance to match the fellow eye.

### Figure 3

Final customized prosthetic lens on the patient's right eye.



### Figure 4

Prosthetic contact lens successfully matching the fellow eye for a realistic appearance. Images courtesy of the patient and shared with permission.



At the dispense appointment, the patient was extremely pleased with the outcome of the customized lens, as seen in Figures 3 and 4. The patient was successful with application and removal training prior to dispense of the lens. She was also prescribed polycarbonate spectacles for full time wear over the contact lens for protection.

## CONCLUSION

Contact lenses have a wide range of clinical applications and may improve patients' quality of life in ways beyond just visual acuity. Choosing an appropriate prosthetic lens includes:

- Consideration of the patient's visual and cosmetic needs and daily activities
- Iris and pupil diameter
- Iris color match
- Ocular health

These lenses often have annual or quarterly replacement schedules, so compatible care systems should be recommended to remove both build-up and avoid fading lens pigment. Polycarbonate spectacles should be prescribed for full time wear over the contact lens to protect the fellow seeing eye.

Many patients who can benefit from prosthetic lenses may be unaware of their availability. Specialty contact lens practitioners can initiate the conversation and significantly improve the well-being of patients by fitting these lenses.

## REFERENCES

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