

Corneal Distortion Eliminated by Refitting with Gas Permeable Lenses

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The patient, M.T., a forty-year old female, first came to my office on August 19, 1981. She had been wearing PMMA lenses all her waking hours. The original fitting was done by another optometrist who had discharged her six months earlier with no apparent problems. The present lenses were three years old.

One week earlier, the patient had been treated by the emergency M.D. at the hospital for an apparent foreign body irritation in the left eye. Her chief complaint at this time was that the vision was still blurry with her glasses and that the left eye was sore after a full day of lens wear.

Initial Findings

Contact Lens Acuity

6m	40cm
O.D. 6/7.5	.37m
O.S. 6/7.5	.37m
Present Spectacle Acuity	
O.D. 6/12	.37m
O.S. 6/20	.50m
Present Spectacle Rx	
O.D. -4.25 -0.75 X 007	
O.S. -4.25	
CL Overrefraction	
O.D. +0.25	6/7.5
O.S. +0.25	6/7.5
Best Spectacle Refraction	
O.D. -4.50 - 1.50 X 170	6/7.5
O.S. -4.75 -2.00 X 180	6/20

Keratometer Readings

O.D. 43.50 -1.50 X 180

(slight distortion)

O.D. 42.50 -2.50 X 180

(severe distortion)

Ocular Motility — normal

Ocular Health Examination

— unremarkable

Biomicroscopy — present lenses

2mm lag O.U., good centration, no central corneal clouding, no staining with fluorescein. Lenses worn 7 hours. Lenses badly scratched.

A diagnosis of corneal distortion secondary to the initial trauma was made. The patient was advised to discontinue her lens wear until the symptoms resolved. She refused this recommendation leaving us the alternative of refitting with lenses of gas permeable material, rather than PMMA.

Original Lens Specifications

(from previous practitioner)

	O.D.	O.S.
Base Curve	7.60	7.60
Diameter	9.5	9.5
Optic Zone	8.3	8.3
Peripheral Curves	7.8/9.5	7.8/9.5
Centre Thickness	0.12	0.12
Power	-4.50	-4.50

New lenses of Sil-35* material were ordered with the same specifications since the PMMA lenses were performing adequately in terms of physical fit and refractive error neutralization.

The new lenses were dispensed with instructions to reduce wearing time as much as possible. At one week, the patient was so comfortable that she had resumed wearing the lenses all waking hours.

Final Findings

(one month with new lenses)

Contact Lens Acuity

6m	40cm
O.D. 6/6	.37m
O.S. 6/6	.37m
Spectacle Acuity	
O.D. 6/6	.37m
O.S. 6/6	.37m

Best Spectacle Refraction

O.D. -4.50 -1.50 X 170	6/6
O.S. -4.75 -0.50 X 180	6/6

Keratometer

O.D. 43.75 -1.50 X 180 (no distortion)	
O.S. 44.00 -1.00 X 180 (no distortion)	

As can be seen from the final findings, the spectacle vision had improved for both eyes and the distortion had been resolved. The patient also reported no discomfort with any wearing time of the gas permeable lenses. There also was an improvement in the contact lens acuity which was a result of new unscratched lenses, not the new lens material itself. This case demonstrates the effectiveness of gas permeable lenses as an alternative to PMMA.

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*Sil-35 — A polysiloxanyl (alkyl) copolymer 35% with PMMA available from Trans Canada Contact Lens Ltd.