

Use of a Prosthetic Contact Lens in a Patient with Convergence Insufficiency

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BACKGROUND

A 38 year-old white male presents for diplopia at intermediate and near distances. In 2006 he started to notice constant diplopia when using the computer and reading, causing asthenopia and headaches when at work and performing prolonged near tasks. He was diagnosed with convergence insufficiency and prescribed 8 prism diopters net base-in spectacles, which alleviated his symptoms

CASE HISTORY

Chief Complaint: Diplopia with near tasks, mostly with reading and computer work. The patient is unable to wear his prism spectacles due to recent injury to his face.

Medical and Ocular History: One month prior, the patient shot himself in the face from an accidental gun misfire. The bullet entered the left septum and exited the right septum. He is currently undergoing multiple reconstructive surgeries to repair his nose.

(+)Convergence Insufficiency, diagnosed 2006

(+)h/o vision therapy, unsuccessful, not interested

(+)h/o PRK OU, 2003

(+)h/o left orbital floor fracture s/p repair, 2005

PERTINENT FINDINGS

Visual Acuity: 20/20 OU

Pupils: PERRL (-)APD

EOMs: Full and comitant OU, diplopia in all gazes

Cover Test sc: Distance: No tropia

Near: 12-14 prism diopters IAXT

Eye Dominance: Left

Keratometry: OD: 42.3@99.8 / 40.8@09.8

OS: 41.1@86.3 / 40.2@176.3



Figure 1. Patient's features s/p 3 of 5 reconstruction surgeries.

TREATMENT AND MANAGEMENT

Due to patient's history of unsuccessful vision therapy and is unable to wear spectacles, the patient was fit with the following lens in the right eye for monocular occlusion:

Brand	Orion, BioColors
Base Curve	8.6
Diameter	14.0
Size Parameters	7mm occluded pupil
Power	Plano

Note: Patient deferred any coloration/tint on the lens due to dark irises.



DISCUSSION

- Occlusion is a suitable management solution for patients with diplopia, binocular vision issues¹ and severe visual distortions with satisfactory results^{2,3}.
- Opaque contact lenses are a good temporary option as an opaque intraocular lens requires surgery and occlusion with spectacles is cosmetically unappealing for patients⁴.
- In this case, the patient is unable to wear glasses as an occlusion or prism option due to facial damage secondary to a gunshot wound. Additionally, the patient's history of unsuccessful vision therapy with low motivation indicates he would be a poor candidate for repeat therapy.
- An occluding contact lens is a safe, simple, and feasible interim treatment for this patient's condition.

REFERENCES

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