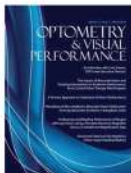


March 2020

OPTOMETRY & VISUAL PERFORMANCE



Vertical Heterophoria Treatment Ameliorates Headache, Dizziness and Anxiety

Debby L. Feinberg, OD • NeuroVisual Medicine Institute • Bloomfield Hills, Michigan

Mark S. Rosner, MD • St. Joseph Mercy Hospital • Ypsilanti, Michigan

Arthur J. Rosner, MD • The Oakland University William Beaumont School of Medicine • Rochester, Michigan

ABSTRACT

Background: Vertical heterophoria is known to cause headache, dizziness, and anxiety, three commonly comorbid diseases. Earlier studies have shown that correction of vertical heterophoria smaller than the standard error of existing phoria tests can reduce symptoms. This study is designed to demonstrate the effectiveness of prism lenses correcting for small amounts of vertical heterophoria in reducing symptoms in patients presenting with headache, vestibular and/or anxiety symptoms, and also to demonstrate effectiveness of micro-prism lenses to diagnose vertical heterophoria.

Methods: Retrospective study of patients diagnosed with vertical heterophoria who responded to treatment with micro-prism lenses and completed survey instruments at an optometry clinic in Michigan, USA. This study included 111 patients presenting with vertical heterophoria symptoms between 07/2009 and 06/2011 who self-reported significant disability from headache, dizziness, and/or anxiety on the Headache Disability Inventory, Dizziness Handicap Inventory, and Zung Self-Rating Anxiety Scale respectively, and completed pre- and post-treatment survey instruments. Participants were treated by application of corrective micro-prism lenses (vertical prism 0.25D-2.50D) followed by 1-3 lens prescription adjustments over 8-12 weeks. Outcomes were measured by repeating survey instruments.

Results: Mean HDI score reduced from 37.55 to 22.13, effect size $d = .54$. Mean DHI score reduced from 38.01 to 18.68, effect size $d = .72$. Mean SAS score reduced from 42.13 to 34.22, effect size $d = .80$. No side effects reported.

Conclusions: Screening and treatment for vertical heterophoria using micro-prism lenses provided significant symptom relief for patients with headache, dizziness, and anxiety symptoms that had not responded to traditional treatments.



2550 S. Telegraph, Suite 100
Bloomfield Hills, MI 48302
(248) 258-9000
NVMInstitute.org