A Vivid Recovery of Stereopsis

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ABSTRACT

Strabismus can be a debilitating ophthalmic disorder. Often patients are referred for surgery; however, orthotropic eye posture does not necessarily mean a patient has regained quality binocular vision. Even in cases that do achieve stereopsis, recovery can take months to occur. Lal) Our case highlights the use of common vision therapy activities, such as wide eye stretches and accommodative exercise, along with dichoptic antisuppression and stereoscopic activities using a virtual reality software. Combined, this therapeutic regimen helped our patient experience significant psychological motivation during the sessions and afforded our patient her first known appreciation of depth.

INTRODUCTION & CASE HISTORY

A 36-year-old white female presented for a vision therapy evaluation for esotropia due symptoms of worsening and now debilitating diplopia, asthenopia, and occasional dizziness. She additionally reported avoidance of outdoor activities with her family due to not feeling safe with her current state of vision. She previously underwent strabismus surgery for a left esotropia 15 years prior, which afforded her temporary cosmetic improvement, followed by eventual regression to >30 prism diopter predominantly left esotropia at distance and >25 prism diopter alternating esotropia at near. Amblyopia was not present. She presented without stereopsis and stated that she was unable to appreciate her entire life.

EXAM DATA

2001 - First Strabismus Surgery
- Chief Complaint: patient reported symptoms and signs of strabismus and visited a vision therapy clinic for evaluation
- 30-40° OS esotropia on distance cover test (DCT)
- 25-30° alternating esotropia on near cover test (NCT)
- No measurable stereopsis at distance or near

2015 - Binocular Vision Evaluation
- Chief Complaint: patient reported symptoms and signs of strabismus and visited a vision therapy clinic for evaluation
- 30-40° OS esotropia on distance cover test (DCT)
- 25-30° alternating esotropia on near cover test (NCT)
- No measurable stereopsis at distance or near

2016 January - Start Vision Therapy treatment
- Used Vivid Vision and standard orthoptic treatments
- Showed signs of having stereo vision in the Bubbles protocol within Vivid Vision in therapy

2016 November - Second Strabismus Surgery
- Post sx presented with orthophoria at both on DCT and NCT
- 40 arc seconds of stereopsis at near post surgery
- Maintenance vision therapy until August of 2017

CONCLUSIONS

Even though our patient’s deviation required surgical intervention, her pre- and post-surgical visual rehabilitation prepared her visual system to use both eyes simultaneously. Although this just one case study on the success of visual rehabilitation for a strabismic patient, a clinical trial is being conducted to evaluate on a larger scale the effectiveness of binocular rehabilitative treatment prior to strabismus surgery compared to no treatment prior to surgery. (NCT 01791946)

REFERENCES