

# RESULT OF PRISMATIC SPECTACLES IN THE TREATMENT OF CONGENITAL NYSTAGMUS: A CASE REPORT




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**Introduction:** Nystagmus is characterized by an *involuntary* shaking or jerking of the eyes, either idiopathic or associated with defects of the visual afferent system, which usually results in some degree of visual loss. The onset of congenital motor nystagmus is typically between 6 weeks and 3 months of age <sup>1</sup>.

Patients with nystagmus often present an abnormal head posture (AHP), in an effort to maintain a null point - a position in which eye movement is minimized, that reduces the nystagmiform movements. In order to improve vision, a patient will present either a right head turn with left gaze, or a left head turn with right gaze <sup>2,3</sup>.

The use of prismatic spectacles with opposite bases (placed in the opposite direction to the direction of gaze in which the nystagmus decreases) reduces the AHP and improve visual acuity (VA). The power is selected according to the patients' fusional capacity to avoid diplopia <sup>3,4,5</sup>.

**Aim:** To describe the impact of opposing base prisms used over a 5 year period on a child with infantile idiopathic nystagmus.

**Case-report:**  **At 6-months-old:** Fundoscopy OU: optic discs without alterations, vascular arcades normal. Pendular nystagmus with rapid phase to the right with a moderate amplitude. The results of the f-ERG and PEV were subnormal for this age with a slight asymmetry of the RE response in PEV. Magnetic resonance without changes.

VA with Teller Acuity Cards (TAC) to 38 cm: RE = 20/300 LE = 20/400 OU = 20/300.

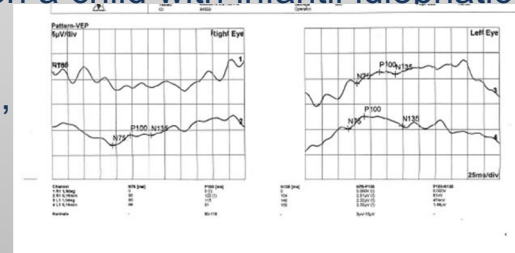


Figure 1

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☀ **At 9-months-old:** The child's parents noted a persistent head rotation to the right with eyes turned to the left – null point (Figure 2).

Orthotropia at near and distance fixation.

VA (TAC) at 38 cm: RE = 20/250 LE = 20/300 OU = 20/150

The child's AHP became more pronounced with age (Figure 3).



Figure 4

☀ **At 2-years-old:** updated refraction (SK)

VA with Cambridge Cards: RE (-1.50)= 6/18

LE (-0,50) = 6/18

OU = 6/18

Prism prescription: RE10<sup>Δ</sup> BO LE10<sup>Δ</sup> BI

BCV with near stereoacuity: 400" (Titmus Test – Animals)

With SK and prisms spectacles: reduction of AHP (Figure 4)

☀ **At-5 years-old:** Orthophoria at near and distance

Face turned to the right with improved the APH with RE10<sup>Δ</sup>BO LE10<sup>Δ</sup> BI

VA with Allen Optotypes: RE (-1,50x170)=20/30

LE (-1,00x180)=20/30

OU=20/30

Near stereoacuity: 60"

SD-OCT normal in OU: Macula, RNFL and ONH (Figure 5)

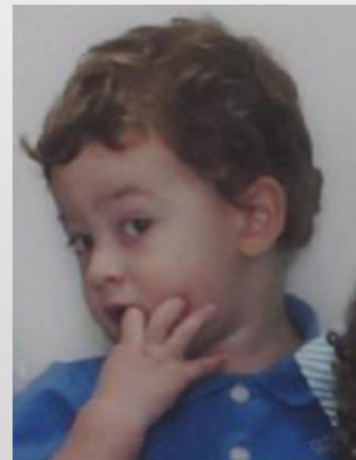


Figure 2



Figure 3

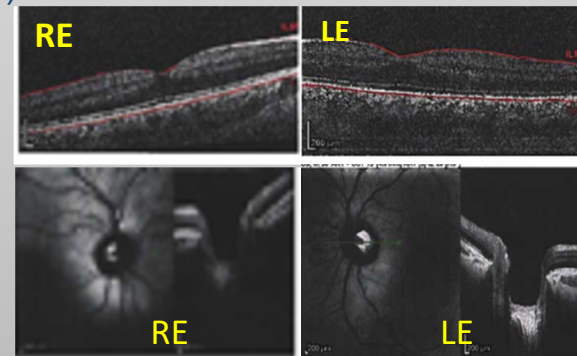


Figure 5

☀ **At-6years-old:** Horizontal conjugate nystagmus which dampened on convergence.

The AHP change: he use face turn to the left to fixation but at other times he use a face turn to the right with and without prismes spectacles.

VA: OU (+1.00x180)= 20/60

Was advised to remove the prismatic spectacles and to continue monitoring.



Figure 6

☀ **At-7years-old**

Orthophoria at near and distance  
Horizontal nystagmus that increases in levoversion and decreases in dextroversion.



Figure 7

Now the head turn to the left with right gaze - null point (Figure7)

Updated SK VA=RE (-2.00+3.00x60) = 20/50

LE (-1,50+3.00x110) = 20/50

BCV with near stereoacuity 140" maintained by correcting ametropia without prismatic spectacles

**Conclusion:** In order to improve his VA, the patient developed an AHP which decreased with the use of prismatic prescription. A decrease in AHP, a significant improvement in VA and binocularity were observed after the first prescription of prismatic spectacles.

Despite the initial improvement in the first prismatic prescription, at 6 years of age, the AHP increased and the prismatic spectacles were removed.

**In summary:** Prismatic spectacles played an extremely important role in reducing nystagmus and improving VA. After the change of the AHP, the use of the prismatic spectacles were suspended and other therapeutic options were explored.

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