

## Correcting infantile esotropia: what should our aims and methods be?

## Corrección de la esotropía infantil: ¿cuáles deben ser nuestros objetivos y métodos?

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El comité editorial se complace en ofrecer las consideraciones personales del Dr. *Cameron F. Parsa*, quien es Profesor Asociado del Departamento de Oftalmología y Ciencias Visuales de la Universidad de Wisconsin y colaborador del equipo de Oftalmología Pediátrica del Instituto Cubano de Oftalmología "Ramón Pando Ferrer", sobre la corrección de la esotropía infantil.

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Méndez Sánchez TJ, Hernández Silva JR, Naranjo Fernández RM, Castro Pérez PD, Estévez Miranda Y, Padilla González C. Factores de riesgo en la no obtención de visión binocular en operados de esotropía congénita. *Rev Cubana Oftamol.* 2013;26(Sup. 1).

This study adds to a growing consensus that earlier surgical correction of infantile strabismus can lead to improved fusional outcomes, with greater stability of ocular alignment.<sup>1-3</sup> Several factors, however, must be kept in mind. Surgery in the younger infants (i.e., less than 10-12 months of age) may itself be more challenging due to: 1) the greater difficulty clinically in obtaining accurate measurements of misalignment, 2) the misalignment itself may be more variable, sometimes even spontaneously improving in the first several months of life, and 3) the effects of surgery may be less predictable when globes and orbits are still growing rapidly. Hence, operating at very young ages sometimes requires a greater number of overall surgeries to achieve the alignment desired.<sup>1-3</sup> It can be sometimes difficult to judge whether such early surgery with its attendant risks (anesthesia, likelihood for re-operation) warrants the admittedly increased, but nonetheless still low,<sup>3</sup> chances of developing gross, let alone, high-grade stereopsis.

Once fusion is disrupted, but before larger angles of esotropia develop due to convergence unimpeded by fusional divergence mechanisms, with secondary muscle-length adaptation changes that occur,<sup>4</sup> efforts may instead be better rewarded in the youngest of infants toward the early detection of small degrees of misalignment.

Rather than planning for surgery, attempts to reduce convergence promptly via optical means may be more efficacious. This, of course, was championed by Donders<sup>5</sup> and more recently re-emphasized by Jampolsky<sup>6</sup> before being further evidenced in multicenter studies.<sup>2</sup> Still overlooked to date, however, is the fact that such reduction in accommodative-convergence can be yet further enhanced though the use of monofocal glasses or contact lenses *set for the near distance*. This will eliminate *all* visually-initiated accommodative-convergence efforts during the critical early time period in which still non-ambulatory infants are really interested only in near viewing, and maximally assist in re-establishing fusion.

Duration as well as age of onset of strabismus greatly affects the final fusional outcome. Approaching one year of age, surgery becomes more predictable, and retention of some degree of gross stereopsis still possible. Infantile esotropia uncorrected by age three years, on the other hand, has little chance of developing significant stereopsis, and, in the absence of amblyopia, its correction could thereafter once more be considered less urgent until the child is of school age.

## BIBLIOGRAFIC REFERENCES

1. Simonsz HJ, Kolling GH, Unnebrink K. Final report of the early vs. late infantile strabismus surgery study (ELISSS), a controlled, prospective, multicenter study. *Strabismus*. 2005 Dec; 13(4): 169-99.
2. Simonsz HJ, Eijkemans MJ. Predictive value of age, angle, and refraction on rate of reoperation and rate of spontaneous resolution in infantile esotropia. *Strabismus*. 2010; 18(3): 87-97.
3. Simonsz HJ, Kolling GH. Best age for surgery for infantile esotropia. *Eur J Paediatr Neurol*. 2011; 15(3): 205-8.
4. Guyton DL. The 10th Bielschowsky Lecture. Changes in strabismus over time: the roles of vergence tonus and muscle length adaptation. *Binocul Vis Strabismus Q*. 2006; 21(2): 81-92.
5. Donders FC. Chapter VI. Strabismus convergens, the result of hypermetropia. In: *On the anomalies of accommodation and refraction of the eye*. Translated by WD Moore. London: The New Sydenham Society (Volume 22), 1864: 291-311.
6. Jampolsky A. What do we really know about strabismus and its management? In: Taylor DS, Hoyt CS (eds): *Pediatric Ophthalmology and Strabismus*, W.B. Saunders Ltd; 2005, Chapter 90. p. 1001-10.

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