

# The Use of Botulinum Toxin to Treat Infantile Esotropia: A Systematic Review With Meta-Analysis.

[Issaho DC](#)<sup>1,2</sup>, [Carvalho FRS](#)<sup>2</sup>, [Tabuse MKU](#)<sup>2</sup>, [Carrijo-Carvalho LC](#)<sup>2</sup>, [de Freitas D](#)<sup>2</sup>.

## Author information

<sup>1</sup>Hospital de Olhos do Parana, Curitiba, Brazil.

<sup>2</sup>Ophthalmology and Visual Sciences, Federal University of Sao Paulo, Sao Paulo, Brazil.

### **Abstract**

#### **Purpose:**

The purpose of this review was to examine the efficacy of botulinum toxin in the treatment of infantile esotropia and to evaluate the average response of BT and its complication rates.

#### **Methods:**

A research was performed in the Latin American and Caribbean Literature on Health Sciences (LILACS), MEDLINE, and Cochrane Central Register of Controlled Trial (CENTRAL). The database was searched between December 28, 2016 and January 30, 2017. The selection was restricted to articles published in English, Spanish, or Portuguese. There were no date restrictions in the search.

#### **Results:**

Nine studies were eligible for inclusion. The grouped success rate of BT treatment in infantile esotropia was 76% (95% confidence interval [CI]: 61%-89%). For the success rate, I<sup>2</sup> of 94.25% was observed, indicating a high heterogeneity ( $P < 0.001$ ). The complication rates were also analyzed. The grouped consecutive exotropia (XT) rate was 1% (95% CI: 0%-2%). The grouped ptosis rate was 27% (95% CI: 21%-33%). The grouped vertical deviation rate was 12% (95% CI: 4%-22%). The mean change of the deviation after BT injection was -30.7 (95% CI: -37.7, -23.8), demonstrating a significant improvement in alignment.

#### **Conclusions:**

Botulinum toxin injection into medial recti muscles reveals to be a safe procedure and a valuable alternative to strabismus surgery in congenital esotropia, especially in moderate deviations.