

## SCIENTIFIC REPORT

# Intermittent exotropia increasing with near fixation: a "soft" sign of neurological disease

P H Phillips<sup>1</sup>, K J Fray<sup>1</sup>, M C Brodsky<sup>1,2</sup>

<sup>1</sup> Department of Ophthalmology, University of Arkansas for Medical Sciences, Little Rock, AR, USA

<sup>2</sup> Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock, AR, USA

Correspondence to:

Correspondence to:

Paul H Phillips

MD, Arkansas Children's Hospital, 800 Marshall Street, Little Rock, AR 72202, USA; [phillips paulh@uams.edu](mailto:phillips paulh@uams.edu)

## ABSTRACT

**Aim:** To examine the association of distance-near disparity with neurological disease in children with intermittent exotropia.

**Methods:** A retrospective analysis was performed of the medical records of all children with intermittent exotropia examined at the Arkansas Children's Hospital between 1989 and 2002. The study group consisted of children with intermittent exotropia who had a near deviation that exceeded the deviation at distance by at least 10 prism dioptres. The control group consisted of children with intermittent exotropia who had a distance deviation greater than or equal to the deviation at near. The main outcome measure was the prevalence of neurological abnormalities in the study and control groups.

**Results:** Among the 29 patients in the study group, 19 (66%) had a history of concurrent neurological abnormalities. Associated neurological conditions included developmental delay (10 patients), attention deficit disorder (four patients), cerebral palsy (four patients), history of intracranial haemorrhage (four patients), periventricular leucomalacia (three patients), seizures (two patients), cortical visual impairment (two patients), hydrocephalus (one patient), history of anoxic brain damage (one patient), history of encephalitis (one patient), and autism (one patient). Among the 37 patients in the control group, seven (19%) had a history of concurrent neurological abnormalities. The difference in the prevalence of neurological disease between the study group and the control group was significant ( $p = 0.0002$ ).

**Conclusion:** Intermittent exotropia increasing with near fixation is associated with neurological disease in children.

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**Keywords:** exotropia; neurological disease; near fixation