



# CHILDREN'S EYE HEALTH

## EXOTROPIA

By Dr Christolyn Raj

### What is exotropia?

Exotropia is the outward turning of one or both eyes (Figure 1).

The following features are common in exotropia:

- Can be intermittent or constant
- Often most noticeable when looking at distant objects
- Common in adults as well as children

### What are the different types of exotropia?

Exotropia may be congenital (present at birth) or acquired. The acquired forms of exotropia include intermittent exotropia, sensory exotropia and consecutive exotropia (exotropia that develops after surgery to treat crossed eyes).

### Is exotropia a medical concern?

A constant exotropia in a child may suggest an underlying medical condition. Therefore, it needs a thorough evaluation by a paediatric ophthalmologist.

### What are the common causes of exotropia?

Common causes of exotropia include:

- **Early-onset or infantile exotropia:** Often occurs within the first 12 months of life. Requires an evaluation to exclude any underlying medical conditions
- **Intermittent exotropia:** Sometimes the eyes appear straight and sometimes they drift outwards. This is common in children of school age
- **Exotropia following strabismus surgery:** This is often seen following eye muscle surgery (strabismus surgery) for esotropia. It occurs most frequently in children of late primary- or high school-age

- **Neurological/medical conditions:** Cranial nerve palsy, hydrocephalus, stroke and cortical visual impairment

### How will a paediatric ophthalmologist evaluate my child for exotropia?

The following will be used in the assessment of your child to determine the presence and type of exotropia:

- A thorough history of the onset, eye/s involved, relevant medical history
- A visual acuity test using an age-appropriate testing method
- An examination to determine ocular misalignment and estimate the size of this misalignment
- Assessment of the refractive status of the eye (i.e. long-sightedness, short-sightedness and/or astigmatism)
- Further testing to exclude other underlying medical conditions

Aspects of the examination will require your child's eyes to be dilated by a safe dosage of eye drops.



Figure 1: Exotropia or outward turning eye

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## What can happen if exotropia is left untreated?

Exotropia does not always need treatment. Commonly, a decision is made for treatment if the exotropia is constant, an obvious turn is present, and if there are other symptoms (e.g. eye strain, frequent headache, etc.). If exotropia is left untreated in this instance, it may result in some or all of the following:

- **Impaired binocular vision:** We rely on good alignment of both eyes to judge depth and appreciate three dimensions
- **Amblyopia:** A constantly turned eye will lose the ability to focus and see well. This is irreversible after 6–8 years of age
- **Impaired motor development:** A limited ability to appreciate depth can affect a child's ability to draw, play, run, jump, climb, etc.
- **Poor cosmetic appearance:** Untreated exotropia of a small size may increase over time

## How is exotropia treated?

There are non-surgical as well as surgical treatments for exotropia. Non-surgical treatments may include:

- glasses
- glasses with prism
- simple exercises
- amblyopia therapy

## When is surgery for exotropia required?

You can discuss whether surgery is appropriate for your child with your paediatric ophthalmologist. Surgery is often considered if non-surgical treatments are not effectively controlling eye alignment. Commonly, surgery is considered necessary when:

- the exotropia is present daily
- the eye misalignment is large
- the patient is experiencing significant symptoms (eye strain, double vision, squinting)
- there is evidence that the patient is losing binocular vision



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