

Infantile esotropia: Causes, symptoms and treatment



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Infantile esotropia is a rare eye condition that affects about 0.25% of newborns in Singapore. Read on to find out more about the causes, symptoms and treatment options.

Just when you think you have read and researched enough to know pretty much all the ailments and conditions your child could have, something pops up with a term that sounds alien to you. Ever heard of infantile esotropia?

We approached **Dr. Zena Lim, Consultant Ophthalmologist, Adult & Paediatric Eye Surgeon, Focal Eye Centre / The Children's Eye & ENT Centre, Mt. Elizabeth Novena Specialist Centre**, to tell us more about this rare condition and how to treat it.

What is infantile esotropia?

Infantile esotropia, also known as congenital esotropia, is when one or both of a child's eyes turn inwards. In layman terms, this condition is also known as *crossed-eyes*.

Infantile esotropia is diagnosed between birth and the first year of an infant's life.

What causes infantile esotropia?

Dr. Lim explains that the exact cause of infantile esotropia is unknown, but it is thought to be due to a failure of the eye movement control mechanisms in the brain to develop properly.

There are a few risk factors that increase the likeliness of infantile esotropia occurring:

- Family history of eye misalignment (squint)
- Premature birth
- Developmental delay
- Seizures
- Intraventricular hemorrhage
- Genetic predisposition
- Hydrocephalus

However, the vast majority of children have no family history of squint and have no other related medical conditions.

How common is infantile esotropia in Singapore?

Dr. Lim states that the condition is a rare eye condition. Reports indicate the range of infants with infantile esotropia to be between 25 per 10000 newborns (0.25%) to 1%. In Singapore, the incidence is likely to be closer to 0.25%.

How to treat infantile esotropia?

While no mum wants her precious little child to go under the knife, Dr. Lim says that unfortunately, the definitive treatment for infantile esotropia is eye muscle surgery (strabismus surgery) to realign the eyes.

Occasionally, the eye doctor may prescribe a trial of high-powered glasses to evaluate if glasses can straighten the eyes. However, infantile esotropia is primarily a surgical condition that requires surgery, preferably before 2 years of age. This is to ensure development of some degree of stereopsis (3D vision).



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It is important to get the surgery done early, as that would ensure that both eyes perform efficiently. Surgery done on children under the age of 2 is reported to give better visual prognosis. Having said that, it is more difficult to perform the surgery very early as younger children have tiny faces and thus tiny eye muscles.

And guess what mums? Botox has uses other than restoring youth. Yes, you read that right – Botox! Recently, Botox (to the eye muscles) has been used to treat selected cases of infantile esotropia.

Potential Complications

The corrective surgery for infantile esotropia can lead to the following complications:

- Over or under correction of eye alignment
- Infection
- Scleral perforation (very rare occurrence)
- Allergic reaction
- Conjunctival scarring
- Conjunctival inclusion cyst
- Change in eyelid position
- Lost or slipped muscle

Can infantile esotropia be prevented?

Dr. Lim says that prevention is not possible as it is a condition that occurs early in a child's life, usually infancy and thus cannot be prevented.

Do children have to wear glasses because of infantile esotropia?

Infantile esotropia is not to be confused with being near or far sighted. Unless the child near or far sighted, the condition on its own doesn't warrant the need for glasses.

Conditions related to infantile esotropia

Many children who have this condition eventually develop some degree of vertical divergence – an upward drifting of the eyes, usually more prominent in one eye.

If the child happens to be moderately far sighted, accommodative esotropia can occur as a result of that. Accommodative, or refractive esotropia is one of the most common forms of esotropia, in which the eye crossing is caused by the focusing efforts of the eyes as they try to see clearly. The good news is that accommodative esotropia doesn't involve surgery – spectacles are about all that's needed to correct the condition.

On a concluding note, Dr. Lim wishes to say this to all parents:

Do not delay seeing an eye doctor if you think your child has features of infantile esotropia. Many parents with affected children hope that with time, the eye misalignment goes away and the problem will be corrected on its own.

Unfortunately, infantile esotropia, if left untreated will adversely affect 3D vision, and lead to significant and unnecessary social issues for the child in school. If esotropia is surgically corrected before 2 years of age, there is a better chance of developing the ability to use both eyes together.