

## WHAT IS EXOTROPIA?

Exotropia is a form of [strabismus](#) (eye misalignment) in which one or both of the eyes turn outward. It is the opposite of crossed eyes, or [esotropia](#). Exotropia may occur from time to time (intermittent exotropia) or may be constant, and is found in every age group [See figures 1 and 2].



**Fig. 1:** Eyes aligned.

## 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).

## WHAT IS CONGENITAL EXOTROPIA?

Congenital or infantile exotropia is an outward turning of the eyes from birth or early infancy. Esotropia (in-crossing of the eyes) is much more common

than exotropia in infants. Constant exotropia in an infant should be evaluated by a [pediatric ophthalmologist](#) to evaluate for any associated medical conditions.

### WHAT IS INTERMITTENT EXOTROPIA?

Intermittent exotropia is a condition in which there are times when one eye has drifted outwards, and other times when the eyes are straight. Some patients or family members notice the exotropia more when the patient is tired or daydreaming. Sometimes the exotropia is noticed more when the patient is looking in the distance. The intermittent exotropia may occur rarely and result in few or no symptoms. However, in some people it may become more frequent over time or progress to the point of becoming constant.



**Fig. 2:** Right eye deviated outward, exotropic

### DOES EXOTROPIA RUN IN FAMILIES?

Eye muscle problems or misalignment of the eyes (Strabismus) can run in families. However, affected family members do not necessarily share the same type and/or severity of strabismus. A family history of strabismus is an indication to be seen by a pediatric ophthalmologist.

## **WHAT ARE THE SIGNS OF INTERMITTENT EXOTROPIA?**

People with intermittent exotropia may experience the outward drift only occasionally, such as when they are very tired, feeling sick, or after drinking alcohol, despite their efforts to refocus. Children may squint one eye in bright sunlight, or may rub one of their eyes. Some people may describe that their vision becomes blurry or they may experience double vision when their eyes are misaligned. Some say that they can “feel” that an eye is misaligned, even though they do not see anything unusual. Others are unaware that an eye is turning unless it is mentioned by another person.

## **WHY DOES SOMEONE WITH INTERMITTENT EXOTROPIA CLOSE ONE EYE FREQUENTLY?**

Children with intermittent exotropia commonly close or squint one eye at times, especially when they are exposed to bright sunlight. The exact reason people with intermittent exotropia close one eye in bright light remains unknown. In any case, when the eye is closed, the child cannot use both eyes together. Small children who won't wear sunglasses may be offered a hat with a brim, such as a baseball cap, to shield the eyes from the sun, thereby limiting the need to squint.

## **IS IT POSSIBLE TO OUTGROW INTERMITTENT EXOTROPIA?**

While it is possible for exotropia to become less frequent with age, most forms of exotropia do not resolve completely. However, some people may be able to adequately control the drifting with glasses or other non-surgical means.

## **CAN ANYTHING BE DONE TO KEEP INTERMITTENT EXOTROPIA FROM GETTING WORSE?**

Common sense approaches may help to control intermittent exotropia. For example, getting the recommended amount of sleep for age is important—many children don't! Staying as healthy as possible may also help. Feeling sick or having a fever may cause the intermittent exotropia to temporarily occur more frequently. See your ophthalmologist as often as recommended, in order to keep the visual system fine-tuned with the appropriate glasses.

Otherwise, the progression of intermittent exotropia is not something that we can predictably control.

### **DOES WATCHING TOO MUCH TELEVISION OR PLAYING TOO MANY VIDEO GAMES MAKE EXOTROPIA WORSE? OR CAN VIDEO GAMES HELP?**

Normal visual activities have no effect on exotropia. However, for other health reasons, parents are encouraged to limit the time their children spend watching TV, playing video games, and sitting at their computers.

### **WHAT IS SENSORY EXOTROPIA?**

Exotropia in an eye with poor vision is called sensory exotropia. In this case, the eye with reduced vision is unable to work together with the other eye, and therefore, the poorly seeing eye may have a tendency to drift outward. Sensory exotropia may occur at any age. If the visual problem is treatable, it should be addressed as soon as possible. In cases of permanent vision loss, surgery to straighten the eye is often an option.

### **HOW IS EXOTROPIA TREATED?**

Non-surgical treatment may include glasses and in some instances, patching therapy may be recommended. If the eyes are misaligned more often than they are straight, surgery on the eye muscles may be recommended in order to realign the eyes. Your pediatric ophthalmologist will discuss the ideal timing of surgery for your situation.

### **WHEN IS SURGERY FOR EXOTROPIA INDICATED?**

Criteria for surgery may vary somewhat, but generally surgery is indicated when the exotropia is frequently present, when the patient is experiencing significant symptoms (eyestrain, double vision, squinting), or when there is evidence that the patient is losing "binocular vision." Surgery may not be recommended if the exotropia is adequately controlled with glasses or other non-surgical methods.

## WHAT IS BINOCULAR VISION?

Binocular vision refers to the brain's ability to see objects with both eyes simultaneously. Among other benefits, binocular vision is necessary for normal depth perception, or "3-D vision". Your pediatric ophthalmologist has ways to test this in the office.

## WHAT AGE IS BEST FOR EXOTROPIA SURGERY?

Age is seldom the main determining factor for exotropia surgery. Surgery is appropriate when exotropia is present for the majority of the patient's waking hours, regardless of age.

## CAN EXOTROPIA BE TREATED WITH PATCHING?

In a small child, part-time patching of the preferred eye is useful if the child has a preference for one eye over the other, or amblyopia. This helps to protect the vision in the non-preferred eye. Some have proposed the use of alternate day, alternate eye patching, but this generally works best in young children to regain control.

## CAN EXOTROPIA BE TREATED WITH GLASSES?

If a patient is nearsighted or has high [astigmatism](#), keeping the glasses prescription up-to-date may help control the alignment.

## CAN EXOTROPIA BE TREATED WITH PRISMS IN THE GLASSES?

If the angle of the exotropia is small, prisms may be used to relieve double vision, particularly in adults, however it does not treat the eye misalignment itself.

## WHAT ABOUT EXERCISES OR VISION THERAPY FOR THE EYES?

Exercises have been proven to treat convergence insufficiency, which is a specific type of eye deviation. You may hear about exercises suggested for treating some cases of intermittent exotropia, however, they have not been shown to effectively treat intermittent exotropia.

**Updated 10/2019**