

Diplopia

WHAT IS DIPLOPIA?

Diplopia, commonly referred to as double vision, is the awareness of seeing two images when only one is present. For example, a driver may see two cars coming towards them when there is only one car or a child may see two TVs when there is just one. The double images may be side-by-side (horizontal), up-and-down (vertical), diagonal (horizontal and vertical), or tilted (torsional). The double vision can be present all the time (constant) or come and go (intermittent).

WHAT IS THE DIFFERENCE BETWEEN MONOCULAR AND BINOCULAR DIPLOPIA?

Monocular diplopia is seeing the double images in just one eye and is still there when the other (unaffected) eye is closed. Binocular diplopia is when double vision is present with both eyes open, but the second image will go away when either eye is closed. Binocular diplopia is usually caused by the eyes being misaligned (also called strabismus).

CAN PATIENTS HAVE MONOCULAR AND BINOCULAR DIPLOPIA AT THE SAME TIME?

Yes, a patient may have both monocular and binocular double vision at the same time. A careful history and examination will be performed by your strabismus specialist (usually a pediatric ophthalmologist) to determine if this is the case.

WHAT ARE SOME CAUSES OF MONOCULAR DIPLOPIA?

Monocular double vision is usually caused by a refractive error (e.g. astigmatism), dry eyes, or cataracts. Your strabismus specialist (usually a pediatric ophthalmologist) may have you look through a small hole of a device called a pinhole to see if this gets rid of your double vision, which would help determine if a refractive error is the cause of your double vision. Rarely, problems with the back surface of the eye (called the retina) may also cause monocular double vision.

WHAT ARE SOME CAUSES OF BINOCULAR DIPLOPIA?

The most common cause of binocular double vision is eye muscle misalignment (also called strabismus ([link to strabismus page](#))). Strabismus may be present all the time (constant) or occur on-and-off (intermittently). Interestingly, if strabismus starts in early childhood, double vision usually does not occur. These children will typically learn how to



“turn off” or ignore the double image when the eye misalignment (or strabismus) is present. This is known as suppression. Older children and adults who develop strabismus later in life when they are older will not have learned to ignore (or suppress) the double image and will therefore experience double vision. An eye misalignment (strabismus) that starts later in life may be caused by something that may be vision or life-threatening. For this reason, all types of double vision should be evaluated by an eye doctor (that is an ophthalmologist).

WHAT ADDITIONAL TESTING MAY BE PERFORMED?

Your doctor may order testing such as a CT scan or MRI of the brain or blood testing. Not all patients will require additional testing.

WHAT DOES A TYPICAL EYE EXAMINATION FOR DIPLOPIA INCLUDE?

An eye examination for double vision will often include of a check of the vision of each eye, the response of your pupils (which is the dark round opening in the middle of the colored part of your eyes), your eyelids, and the front part of your eyes using a microscope. You will likely be checked to see if you have any refractive error and an assessment of your eyes’ position, movement, and ability to work together. Many or all parts of this examination may be performed by an eye motility expert (known as an orthoptist), who often works with your strabismus specialist (usually a pediatric ophthalmologist).

WHAT TREATMENTS ARE AVAILABLE FOR PATIENTS WHO HAVE DIPLOPIA?

Treatment options will depend on the type and cause of the double vision. Monocular double vision may be treated with glasses or contact lenses with the appropriate prescription, artificial tear eye drops to lubricate the eyes, other dry eye treatments, and possibly cataract surgery. Binocular double vision may be treated with glasses, blurring the vision in one eye, a permanent or temporary prism, or eye muscle surgery. At times, treatment may not completely get rid of the double vision, but may help decrease it. Your strabismus specialist (usually a pediatric ophthalmologist) will discuss your options and expected results with you.

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