Passage of Time: Many people have a hidden misalignment of the eyes that is well controlled (phoria) most of their lives (longstanding) which can decompensate later causing intermittent or constant diplopia.

Other symptoms?

Double vision often occurs with no other symptoms, but depending on the underlying cause, other symptoms may be present, such as:

- Pain when moving one or both eyes
- Discomfort or pain around the eyes, such as in the temples or eyebrows
- Drooping eyelids
- Headache
- Nausea

How is diplopia treated?

Double vision is treated by first identifying the underlying cause. If the problem does not resolve, there are treatments to help people manage and live with double vision:

- A head posture to fuse images
- Prescription glasses/contacts
- Eye exercises (ie. for convergence insufficiency)
- Fresnel press-on prisms or ground-in prisms in glasses to optically align the two images into one
- An eye patch or opaque contact lens
- Fog part or all of one lens in glasses
- Botulinum toxin (Botox) injections into the eye muscles, causing them to remain relaxed
- Surgery on the muscles of one or both eyes to correct their positioning
- Medications can help if diagnosed with diabetes or myasthenia gravis

Coping with Diplopia

What is diplopia?

Diplopia, or double vision, occurs when someone sees two images of a single object. This vision problem can occur constantly or intermittently, depending on the severity and underlying cause.

There are three different types of diplopia:

- Binocular diplopia – both eyes do not line up together as they should, and only one image remains if you cover either eye
- Monocular diplopia – double vision is present in one eye when the other is covered. The double image may look ghosted only slightly separated
- Physiological diplopia – this is actually normal, but not usually noticed. Images behind (or in front of) the object being viewed appear double.
What causes diplopia?

When you see double, there is a problem with eye coordination or the optical system. To understand what can go wrong, it helps to know the parts of your eye and how the eyes work together.

**Cornea:** The clear window into your eye. Its main job is to focus light. If your double vision doesn’t go away when you cover one eye (monocular diplopia) the rays of light entering the eye are being split. This may occur if the shape of the cornea is altered or damaged by astigmatism, keratoconus, other refractive errors or by dryness. Corneal damage can be caused by injury or infection. Glasses, contact lenses or dry eye treatment may be helpful in treating some types of monocular diplopia. If the two eyes have different refractive powers (anisometropia) the images may be different sizes and may cause diplopia.

**Pupil:** This is an opening in the iris or colored part of the eye and looks black. It can vary in size in response to light or focusing at near.

**Lens:** This sits behind your pupil and helps focus light onto your retina. Lenses can become cloudy (cataracts) or even dislocated. Early cataracts may cause monocular diplopia.

**Retina:** This is the light-sensitive layer at the back of your eye and should be perfectly smooth. Diplopia can occur when the retina is disrupted, as with retinal detachment, epiretinal membrane, macular hole or macular edema.

**Muscles:** Six muscles attached to each eye allow the eyes to move in certain directions. The movements are coordinated by the brain. When a muscle in one eye is weak the eyes do not work together and may cause diplopia, especially when looking in the direction of action of a weak muscle. The eye muscles may be affected by:

- A problem with the nerves or brain centers that control them.
- Inflammation or direct injury

**Nerves:** These carry information from the brain to your eyes. If the nerve is damaged or weak, it cannot tell the muscle to contract, and usually causes double vision:

- Diabetes or high blood pressure is a common cause of nerve damage to the muscles that move your eyes.
- Injury to the head or orbit (eye socket) often causes nerve damage (palsy) and diplopia.
- Multiple sclerosis (rare) can affect nerves anywhere in your brain or spinal cord.

**Brain:** The nerves that control your eyes connect directly to your brain where images are processed. Many causes of double vision start in the brain. They include:

- Strokes or aneurysms
- Trauma, bleeding, infection or increased pressure inside the brain
- Brain tumors
- Parkinson disease
- Migraine headaches

**Graves’ disease or thyroid eye disease,** an auto-immune disorder that affects eye muscles and can cause eyelid stare (retraction) and diplopia.

**Myasthenia gravis,** also an autoimmune disease, interrupts the message from the nerve to the muscle. Early signs include diplopia and ptosis (drooping eyelids.)