Double vision, also known as diplopia, is the simultaneous perception of two images of a single object. Monocular diplopia means double vision occurring in one eye only. Any disease affecting parts of the eye ranging from the cornea to the retina can lead to monocular diplopia in that eye. Common causes of monocular diplopia are dry eyes, uncorrected refractive error, corneal scars, or cataracts. Binocular diplopia is more complex and the causes are often more serious, sometimes even life-threatening. This kind of diplopia is only present when both eyes are open and it goes away when either eye is covered.

The causes can be divided into:

**Muscle problems**
If a muscle in one eye is weak, that eye cannot move smoothly with the healthy eye. The difference in gaze direction between the two eyes leads to two images and double vision. Grave’s Disease is a type of thyroid condition that affects the muscles of the eyes.

**Nerve problems**
Diabetes, high blood pressure and high cholesterol can lead to strokes affecting the nerves which move the eyes. These tend to recover within 3-6 months but the underlying disease should be brought under control.

**Nerve-muscle junction problems**
Potentially life-threatening, Myasthenia Gravis is an immune system disease that can weaken the signals that make our muscles work. It can also affect other muscles like the breathing muscles, swallowing muscles and limb muscles.

**Bone-soft tissue problems**
The eyeballs lie protected within a bony cavity of the skull called the orbit, and is surrounded and supported by soft tissue. Any disease affecting these surrounding structures can cause double vision.

**Brain problems**
The nerves controlling the eyes connect directly to the brain, and further visual processing takes place inside the brain. Double vision originating in the brain can be due to different causes including strokes, tumours, aneurysms, and increased fluid pressure inside the brain.

**Treatment**
Doctors will most likely use multiple methods to diagnose the cause for double vision. Blood tests, a full eye and physical exam, and possibly imaging studies like computed tomography (CT) or magnetic resonance imaging (MRI) are frequently used.

If double vision cannot be reversed, treatments can help people live with double vision. Sometimes, this requires wearing an eye patch or special prism glasses to minimize the effect of double vision.