

# Seeing Double – Treatments and Causes Vary

BY REBECA SCHILLER

In 1978, the band Foreigner released the single “Double Vision”, and most listeners believed the lyrics referred to getting high. In reality, the title was inspired by New York Rangers goalie John David when he was knocked down and taken out of a game because he was seeing double.

Apart from a hard knock on the head, what Davidson experienced is medically known as diplopia: when an individual sees two images that are either vertical or horizontal, or a combination of both. Diplopia can affect one eye (monocular) or both eyes (binocular). Causes and treatment for diplopia vary depending on whether it's caused by muscular or neurological factors.

The differences between monocular and binocular diplopia are related to the function of the extraocular muscles. Each eye has six tiny muscles that move the eye in different directions. Together, there are 12 muscles that are kept in smooth coordination by the brain stem. The brain knows where each eye is looking and is able to guide and make corrections in the position of each eye. Images that are projected back to the brain are fused together and the individual sees one, unified three-dimensional image. This is called fusion, according to Dr. James Collins, founder and director of The Center for Eye Care and Optical.

When that balance is disrupted, for instance, when you have each eye looking at a different object or looking at a different angle or aspect of that object so that two images actually look separated, this is known as binocular diplopia, meaning that it only occurs when both eyes are trying to work together.

Monocular diplopia can be caused by refractive problems, dry eyes, cataracts or corneal problems. “The diplopia is caused by an abnormality in the eye itself,” said Dr. Jeffrey Nudelman of Lindenhurst Eye Physicians & Surgeon, P.C.

There are a variety of causes behind diplopia that include diabetes, brain tumors, but also thyroid issues and multiple sclerosis.

Vascular issues are common and may include anything like classic small vessel disease, aging, hardening of the arteries, poor circulation, and cardiovascular disease that can affect the circulation to one of the control centers in the brain stem that can lead to temporary or even permanent dysfunction, causing the eyes to separate.

“That can be called a ‘mini-stroke’ and that’s the most common cause we



see on a daily basis. Someone comes in and he has had an ischemic episode, meaning poor circulation, involving one of the eye muscle’s nuclei in the brain stem and then the patient suddenly sees two televisions, two heads on people, two cars coming at them instead of one,” said Dr. Collins.

Most treatments for double vision attempt to address the underlying causes of the disease, said Dr. Nudelman. These procedures can be as simple as adding a prism to new eyeglasses to realign the two images into a single one, a patch to keep the eye covered and more complicated procedures such as surgery.

To surgically correct a muscular disorder that’s causing the diplopia, the surgeon will make an incision in the conjunctiva—the clear part of the eye—then locate the muscle. “We make an incision in the conjunctiva then with a muscle hook, we hook the muscle and move it.”

The procedure takes about 30 minutes per muscle. Dr. Nudelman adds that much of this depends on “the amount of deviation; how much the patients are complaining; what the vision is in the other eye. There are a lot of issues that you need to take into account, and whether you think you can get them fixed by putting the patient through the surgery. That’s the toughest question.”

Both doctors urge if you’re seeing double, make an appointment to have the diplopia evaluated by an eye provider to determine the cause of the symptoms, rule out other issues and come up with a treatment that fits your specific health needs.