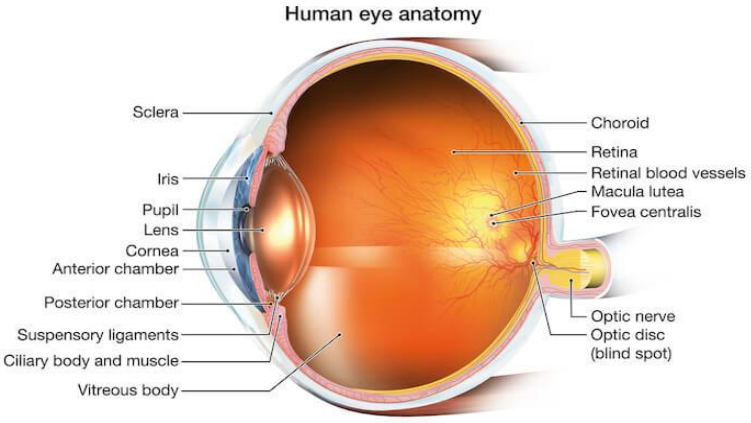
Dragged-Fovea Diplopia Syndrome (DFDS)

(Foveal Misregistration, Foveal Displacement Syndrome,

Macular Diplopia or Central-Peripheral Rivalry)



What is this syndrome?

Double vision (diplopia) due to disruption of central binocular fusion happens when the focal center of the eye (fovea) is displaced and is referred to as Dragged-Fovea Diplopia Syndrome (DFDS).

- The fovea is a small, central pit made up of closely packed cells in the eye called cones.
- It is in the center of the macula, which is in the back layer of the eye called the retina.
- The fovea is responsible for the sharp central vision necessary for detail-oriented activities, such as reading and driving.

Why does this disturbance in our vision happen?

Individuals who suffer with DFDS usually have disorders in the retina that cause visual distortions. The most common retinal disorder to cause DFDS is *epiretinal membrane* (ERM) or *macular pucker.*

- *Epiretinal membrane or macular pucker* is a thin, irregular layer of tissue which grows over the fovea. The tissue is opaque like scar tissue and is difficult to see through. Unfortunately, epiretinal membranes are common and vary in severity. Many people experience metamorphopsia.
- *Metamorphopsia* is another visual distortion of foveal vision that causes objects to appear warped, wavy, curved, or bent. Sometimes objects seem to change shape or look disproportionately larger than normal (*macropsia*) or smaller than normal (*micropsia*). It affects our central vision, but things we see peripherally usually appear normal.

Many other retinal or macular conditions can cause varying metamorphopsia such as: *choroidal neovascular membranes, retinal detachments, macular scars, age related macular degeneration, macular hole, or macular edema.*

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How is this syndrome diagnosed?

Making the diagnosis is difficult as patients struggle to describe their symptoms. The double vision can be intermittent and can occur when reading or looking at something in the distance. It is important to try and identify what activities trigger the double vision.

There are a few simple tests that can be done in the office to help diagnose DFDS.

- *Amsler grid* testing can help detect the wavy lines of metamorphopsia.

- *Optical Coherence Tomography* [OCT] and examination of the retina can determine if a patient has an epiretinal membrane or other retinal disorders affecting central vision.

- The *lights on-off test* can be done in patients with DFDS. Double vision is constant in normal room light but resolves or improves in a darkened room.

Most patients with DFDS are diagnosed incorrectly as having small angle strabismus (misaligned eyes) and are given prisms ground into glasses as a form of treatment. Unfortunately, ground in prisms are not an effective treatment option for DFDS because the problem is a sensory disorder and not a disorder of the eye muscles.

Non-surgical treatment options for DFDS

- Eliminating the distorted image from the affected eye by using translucent contact paper, frosted adhesive tape, a Bangerter filter, or a MIN lens. In rare instances an occlusive contact lens can be worn on the affected eye.

- Learning to ignore the second image by training the brain to suppress vision from the affected eye and rely on the unaffected eye for detailed fixation.

Surgical treatment for DFDS:

- Depending on the severity of the epiretinal membrane, visual distortion and its impact on visual acuity, epiretinal membrane peeling surgery by a retina surgeon might improve vision and reduce image distortion enough to eliminate the double vision. However, double vision and visual distortion may persist even after the membrane peeling procedure.