Bay Area Retina Associates

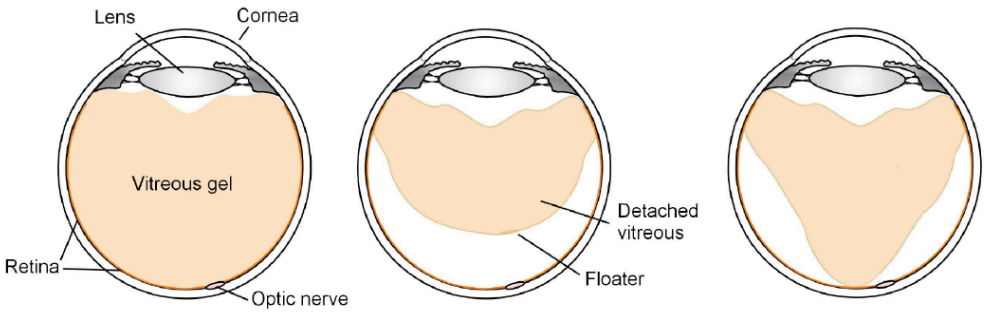
Diseases and Surgery of the Retina and Vitreous

Vitreomacular Traction

Vitreomacular adhesion or traction refers to an attachment between the vitreous gel which fills the eyeball and the central part of the retina which lines the back of the eye. If the vitreous gel separates from the retina except for a persistent central attachment, then the gel can physically pull on the retina and cause swelling or deformation which results in blurred or distorted vision.

HOW DOES VITREOMACULAR TRACTION OCCUR?

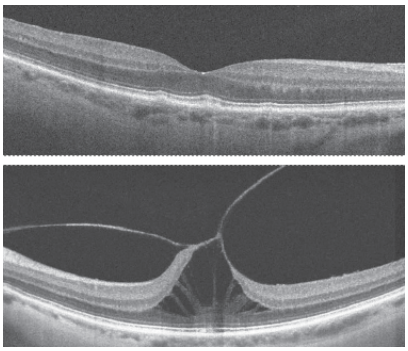
At birth, the vitreous gel is clear and firm. The surface of the gel is attached to the retina, as shown in the first image below. With age, the gel begins to liquefy and soften. Eventually, in most eyes, the surface of the gel separates cleanly from the retina, creating a posterior vitreous detachment, as shown in the second image below. However, in some eyes the attachment between the gel and the retina is strong enough that the gel separates only partially, leaving a small area of attachment as shown in the third image below. This attachment can pull on the retina cause various deformations.



Normal eye **Posterior vitreous detachment** **Vitreomacular adhesion**

HOW IS VITREOMACULAR TRACTION DIAGNOSED?

Your retinal surgeon may order diagnostic tests in the office to identify and characterize the adhesion between the vitreous gel and the retina.



Optical coherence tomography (OCT), a retinal scan that measures abnormalities in very high resolution, is the most common. Compared to the normal retinal contour with a smooth central depression (above), vitreomacular traction causes tenting of the front retinal surface (below) which may impair the vision.

TREATMENT OF VITREOMACULAR TRACTION

Observation. In some cases, vitreomacular adhesions will resolve on their own and treatment can be avoided. Spontaneous resolution is difficult to predict, and so observation for at least a short period of time is usually appropriate before initiating any type of treatment.

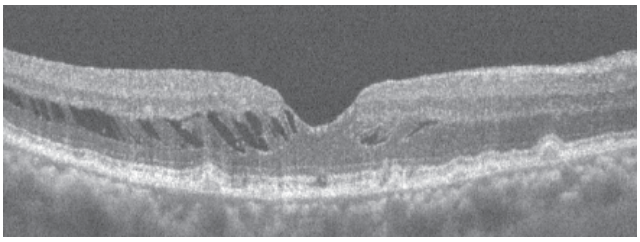
Intravitreal injection. Jetra (ocriplasmin) was FDA approved in 2012 for treatment of vitreomacular adhesion. This clear liquid injection is given in the office after the eye is numbed. The odds of resolution with this treatment vary depending on the exact characteristics of the adhesion. If the adhesion does not resolve with ocriplasmin treatment, then vitrectomy surgery is usually required to treat the persistent vitreomacular adhesion.

Micro-incisional vitrectomy surgery. Micro-incisional vitrectomy surgery is performed in the operating room as a same-day procedure. The surgery is able to successfully separate the vitreomacular adhesion more than 90% of the time. In some cases, a gas bubble is placed in the eye and face-down position is required in order to achieve the best visual outcome after surgery.

VISION AFTER RELEASE OF VITREOMACULAR TRACTION

Visual improvement depends on several factors. Without physical separation of the adhesion, vision is unlikely to improve. If the adhesion separates (spontaneously or with treatment), the vision is likely but not guaranteed to improve. Visual improvement is less likely if the retinal deformation is very severe or has been present for a long period of time.

After vitreomacular traction is released, whether spontaneously or through surgery, the retinal tissue may return to its normal state or there may be leftover damage (right) that prevents full recovery of vision.



In some cases, when vitreomacular traction releases, a full thickness hole (macular hole) is created, and the central vision may decrease suddenly. Macular holes can be treated with surgery (see separate handout on macular hole and macular hole repair).

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Locations

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Bay Area Retina Associates is a group practice of retinal surgeons. All members of the group are board-certified by the American Board of Ophthalmology and have completed fellowship training in the medical and surgical care of retinal diseases. All BARA surgeons have expertise in the treatment of common diseases such as age-related macular degeneration, diabetic retinopathy and retinal detachment, as well as rare diseases. We have served the Bay Area community for 40 years.