

Vitreous Haemorrhage

What Is Vitreous Haemorrhage?

Vitreous haemorrhage means bleeding into the vitreous cavity — the gel-filled space that makes up the back portion of the eye. When blood enters this space, it clouds what should be a perfectly clear medium, interfering with the light reaching the retina.

The effect on vision ranges from mild to severe depending on how much blood is present. A small bleed may cause sudden new floaters or a cobweb-like shadow drifting across vision. A larger bleed can cause sudden, significant loss of vision.

What Causes It?

Vitreous haemorrhage is always caused by an underlying condition — it is a symptom, not a disease in itself. Identifying and treating that underlying cause is the key to the right management. The most common causes are:

- Acute posterior vitreous detachment
- Retinal tear or retinal detachment
- Proliferative diabetic retinopathy
- Branch or central retinal vein occlusion
- Eales disease
- Trauma

Each is explained below.

1. Acute Posterior Vitreous Detachment (PVD)

The vitreous jelly normally fills the back of the eye, with its outer surface attached to the innermost layer of the retina — from the optic disc (where the optic nerve enters the eye) all the way to the peripheral edge of the retina, called the ora serrata.

As we age, this jelly gradually breaks down and liquefies, reducing in volume and pulling away from the retinal surface. This separation — beginning at the back of the eye near the optic nerve — is called posterior vitreous detachment (PVD). When it happens suddenly, most patients notice floaters quite acutely.

In areas where the vitreous is firmly attached to the retina, this sudden separation can tear the retinal tissue. A retinal tear with associated vitreous haemorrhage requires prompt attention — if left untreated, it significantly increases the risk of retinal detachment developing.

2. Retinal Tear and Retinal Detachment

When vitreous haemorrhage is dense, there may be an underlying retinal detachment that cannot be seen directly because the blood is obscuring the view. In this situation, an ultrasound scan of the eye is essential — it can look through the blood and reveal whether the retina is in position or has detached.

All patients with significant vitreous haemorrhage should have an ultrasound examination to rule out retinal detachment.

If detachment is present, vitrectomy surgery is required. Depending on the complexity, the retina may be supported with an expanding gas bubble, silicone oil, or a scleral buckle — or a combination of these. The visual outcome depends on the condition and extent of the detached retina at the time of surgery.

3. Proliferative Diabetic Retinopathy

In diabetic eyes, prolonged high blood sugar damages and blocks the small blood vessels (capillaries) of the retina. Deprived of oxygen, the retina signals the body to grow new vessels — but these new vessels are structurally weak and prone to bleeding. When they bleed, blood spills into the vitreous cavity, causing sudden vision loss.

This is one of the most common and serious causes of vitreous haemorrhage. Treatment involves a combination of laser, anti-VEGF injections, and vitrectomy surgery depending on the severity.

For a detailed explanation of diabetic retinopathy and its treatment, please see our dedicated article on that condition.

4. Retinal Vein Occlusion

A blockage in one of the veins draining the retina — either a branch (BRVO) or the central retinal vein (CRVO) — can, in certain circumstances, lead to vitreous haemorrhage. This may happen in two ways:

- **In the acute stage**, a severe retinal bleed can break through into the vitreous cavity
- **Over time**, the resulting oxygen deprivation can trigger the growth of new, fragile blood vessels that then bleed

Treatment is primarily with anti-VEGF injections, which reduce swelling, suppress abnormal vessel growth, and in many cases meaningfully improve vision. The anti-VEGF medicines currently available include:

- **Bevacizumab** (Avastin)
- **Ranibizumab** (Accentrix; Indian equivalents include Razumab, Ocewa, Macubrite)
- **Aflibercept** (Eylea; Indian equivalent Anyra)
- **Faricimab** (Vabysmo)
- **Pegaptanib** (Macugen)

If vision remains poor despite injections and the haemorrhage does not clear within approximately one month, vitrectomy surgery can be considered. Outcomes are generally good with modest but meaningful vision improvement in most patients.

5. Trauma

A significant injury to the eye can cause vitreous haemorrhage with or without retinal detachment. If examination and ultrasound confirm that the retina is intact, it is reasonable to observe for one to two months — blood will often clear gradually on its own. If it does not clear, or if vision remains significantly impaired, vitrectomy surgery can be performed to clear the blood and assess the retina directly.

A Note on Management

In all cases of vitreous haemorrhage, the fundamental principle is the same: identify the underlying cause, treat it appropriately, and monitor closely for retinal detachment. The timeline for intervention varies — some causes require urgent surgery, while others allow a period of observation to see whether the blood clears spontaneously.

If you experience a sudden onset of floaters, a cobweb in your vision, or a sudden drop in vision, please contact our clinic promptly or attend your nearest eye emergency service. Do not wait to see if it settles on its own.