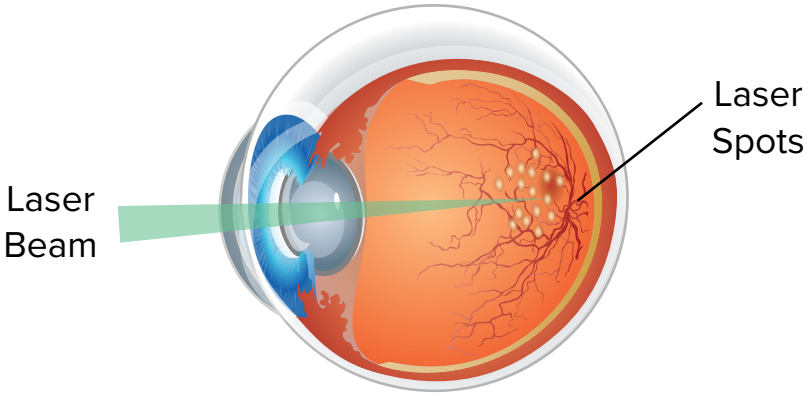
Science of DME

Diabetic macular edema can be treated and, if caught early, vision loss can be delayed, stopped or, in some cases, even reversed.

Browse through to see an illustrated explanation of treatment options for DME and how anti-VEGF therapy can benefit DME patients.

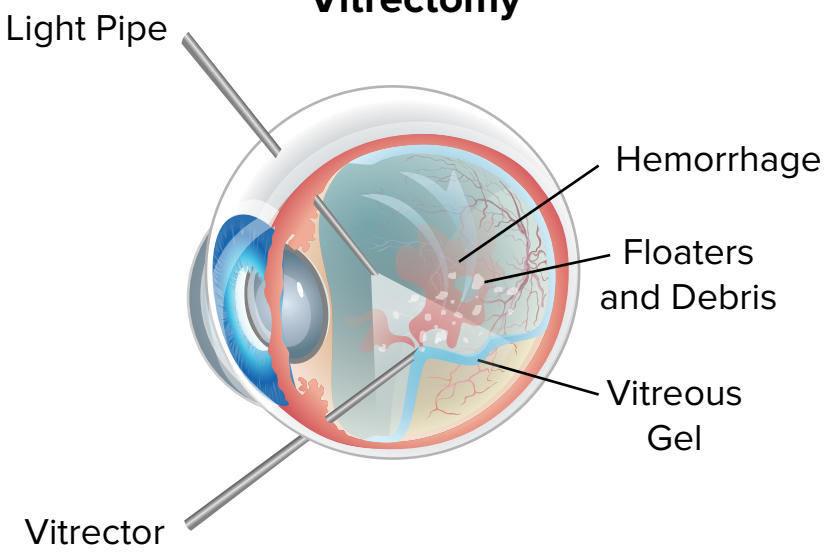
Focal Laser Coagulation



Until recently, DME patients were limited in their treatment options:

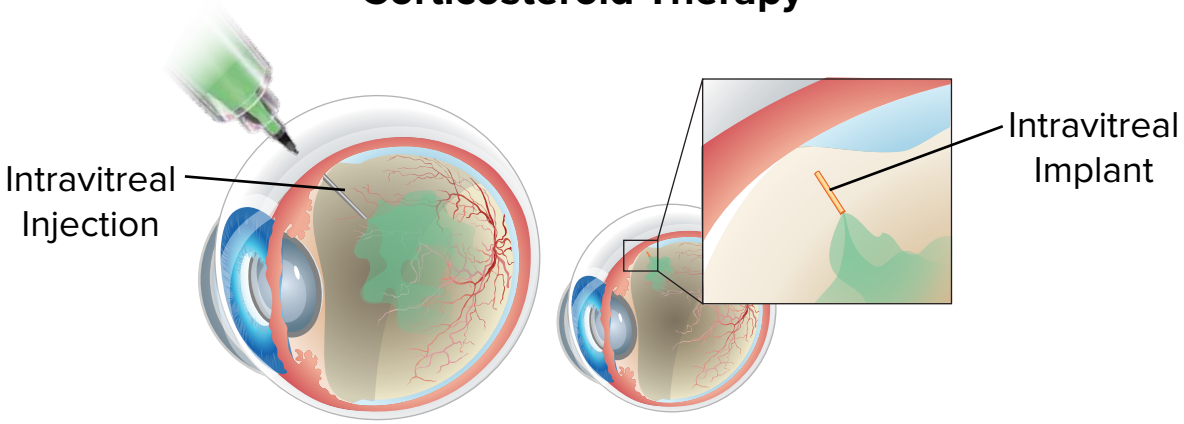
Focal laser photocoagulation was once the standard treatment for DME. It exposes the eye to small laser burns in order to decrease and slow down leakage of fluid, stabilizing vision and potentially preventing further vision loss. However, it is unlikely to improve vision and comes with the risk of scarring the retina.

Vitrectomy

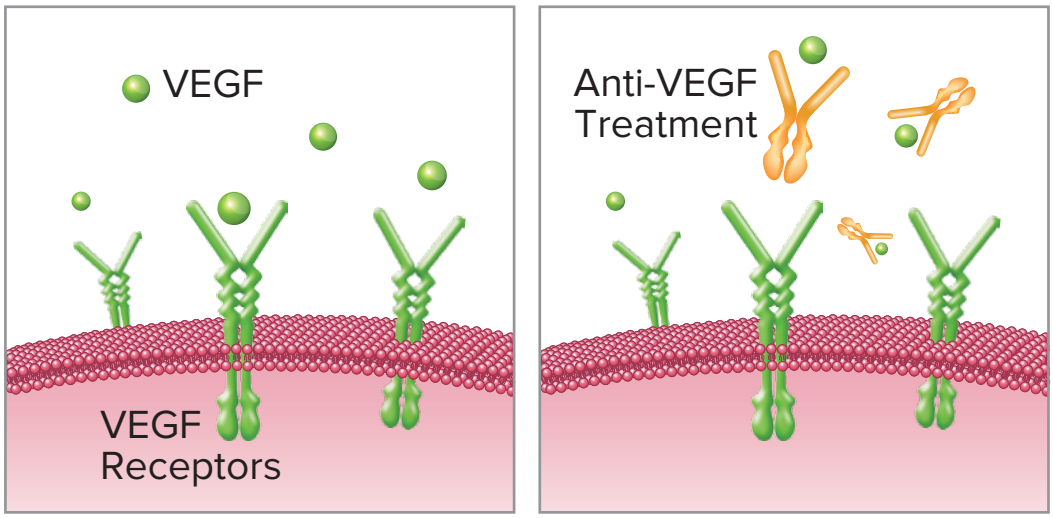


In cases when too much blood has leaked into the vitreous of the eye, a small surgery called a vitrectomy can improve vision by replacing the vitreous with a salt solution and therefore removing excess blood. However, this may offer only temporary relief because it does not stop blood vessels from leaking further.

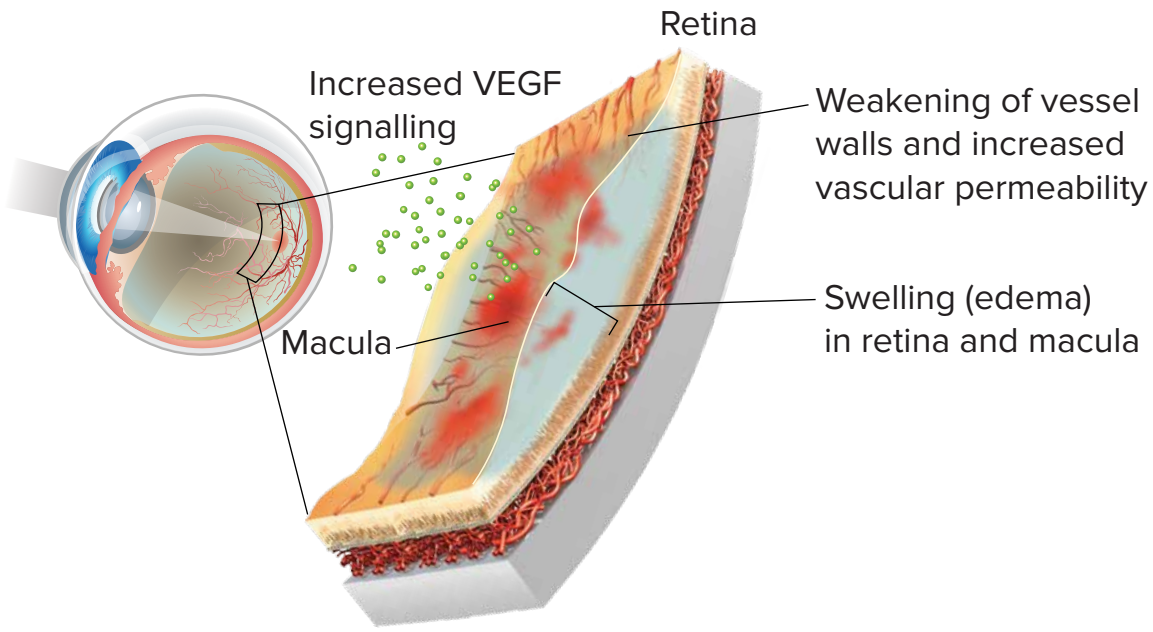
Corticosteroid Therapy



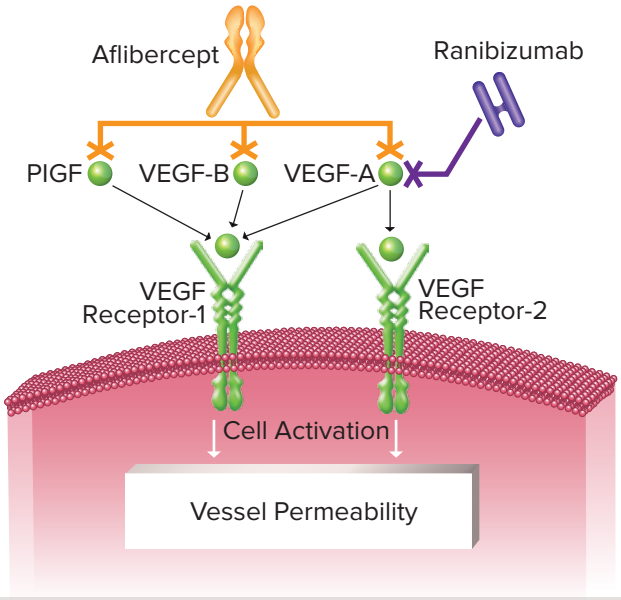
Corticosteroids, which are received through intravitreal injection or by sustained release implants, can improve vision by interfering with the mechanisms that cause inflammation and damage to blood vessels. However, their benefits may be short-lived and come with the risk of other eye complications such as cataracts or elevated intraocular pressure, which is a major risk factor for glaucoma.



A major development in treating vision loss in DME patients has been the introduction of anti-VEGF drugs, which leverage recent advances in our understanding of the different mechanisms that cause DME.



Over-expression of the protein VEGF, or vascular endothelial growth factor, has been shown to play a major role in the development of diabetic macular edema. In DME, VEGF is produced at higher than normal amounts in the retina, which causes blood vessels to become weak and leaky.



Anti-VEGF drugs are designed to target and block VEGF. Lowering abnormal levels of VEGF reduces harmful effects on blood vessels. This decreases leakage of fluid, reduces edema, and can stabilize or even improve vision... all with lower risk for developing other major eye conditions that are associated with some other treatments.

Anti-VEGF treatment is received as an injection directly into the eye. There are three major responses to anti-VEGF treatment:

- Reduced vascular permeability, so that the vessel wall is not as penetrable and leakage of fluid is minimized or completely stopped,
- Reduction in edema and decreased thickening of the macula and retina, and, as a result...
- Improved vision with benefits outperforming that of other treatments.

If you are diagnosed with DME, you have options. Work with an eye care specialist who is experienced in treating and managing DME, and ask them if anti-VEGF therapy is the best option for you. Knowledge and understanding of your condition empowers you to take an active role in choosing and managing your treatment. Visit the Science of DME to learn more.