

Overview of Diabetic Macular Edema (DME)

As a case manager who has worked with patients with diabetes, you are aware of the complications that may arise if diabetes is left unchecked. One of these complications is DME. Whether you are working with an endocrinologist or an eye specialist, you need to be aware that in severe cases, DME can result in blindness. However, treatment options are available to help patients manage their disease.¹

Diabetes at the Root

In diabetes, the pancreas does not produce insulin, or its cells are resistant to insulin—the hormone needed to remove sugar from the blood and convert it to energy.²

This lack of insulin or insulin resistance can lead to a buildup of glucose (sugar) in the blood, which can cause damage to various organs of the body. It is critical for patients to understand that by maintaining glycemic (blood sugar) control, they can help prevent or delay their diabetes from worsening.²

Defining Diabetic Retinopathy (DR) and DME

One of the organs affected by diabetes is the eye. DR is the most common diabetic eye disease and a leading cause of blindness in American adults. It is caused by changes in the blood vessels in the retina. DME is a complication of diabetic retinopathy (damage to the blood vessels in the retina).³

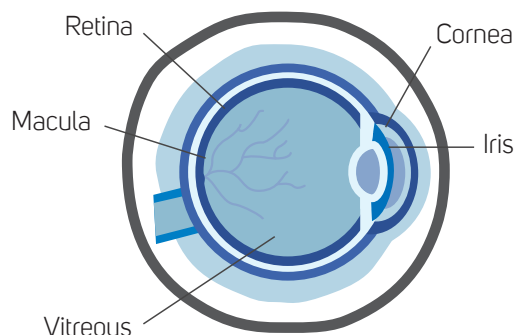
DR has 4 stages³:

- **Mild nonproliferative retinopathy.** At this stage, microaneurysms (small areas of balloon-like swelling in the retina's tiny blood vessels) appear
- **Moderate nonproliferative retinopathy.** In this stage, some of the blood vessels that nourish the retina are blocked
- **Severe nonproliferative retinopathy.** When DR is severe, many more blood vessels are blocked, which deprives blood supply to areas of the retina. These areas send signals to grow new blood vessels so they can get the nourishment they need
- **Proliferative retinopathy.** This is an advanced stage of the disease. The retina's "call" for blood supply causes new blood vessels to grow along the retina and into the clear, vitreous gel that fills the eye. But these new blood vessels are abnormal and fragile. Their thin, weak walls make it possible for them to leak blood, causing severe vision loss or blindness

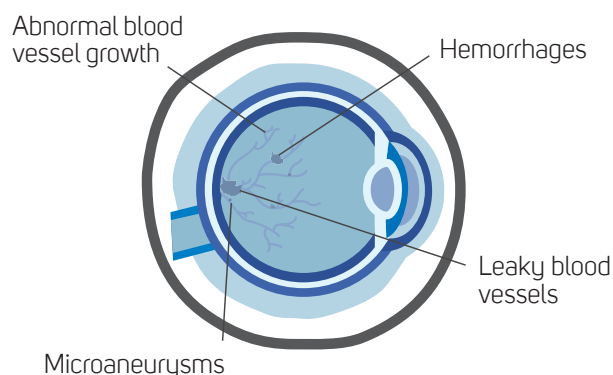
Diabetic macular edema (DME) is a complication of DR.

DME refers to the swelling of the macula resulting in leaked fluid. DME can occur at any stage of DR, but it is more likely to occur as the disease progresses.³

Normal eye



Diabetic retinopathy/DME



References: **1.** The Angiogenesis Foundation. Advocating for improved treatment and outcomes for diabetic macular edema: a report based on an international expert summit convened in Paris, June 2014. <https://www.angio.org/wp-content/uploads/2014/02/DME-Intl-Summit-White-Paper-Report.pdf>. Accessed July 27, 2015. **2.** National Diabetes Information Clearinghouse. Causes of diabetes. <http://diabetes.niddk.nih.gov/dm/pubs/causes/>. Accessed July 27, 2015. **3.** National Institutes of Health. National Eye Institute. Facts about diabetic eye disease. <https://www.nei.nih.gov/health/diabetic/retinopathy>. Accessed July 27, 2015. **4.** Macular edema symptoms. American Academy of Ophthalmology (AAO EyeSmart) website. <http://www.geteyesmart.org/eyesmart/diseases/macular-edema-symptoms.cfm>. Accessed July 27, 2015.

Vision loss or blindness can happen as the macula swells with fluid that leaks into the retina, but DME can start even before any symptoms are noticed.³ Symptoms of DME may include^{3,4}:



Dark spots or "floaters" in vision



Straight lines that look wavy



Washed-out colors



Blurred vision