

## Diabetic Retinopathy



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Retina is the nerve layer at the back of the eye on which images of what we see are focused. Diabetic retinopathy is a disease of the retina and its blood vessels resulting from diabetes mellitus. This is the leading cause of blindness in working adults in developed countries. With increasing affluence in Malaysia, diabetic retinopathy is becoming increasingly common here.

Diabetic retinopathy becomes more common with the duration of diabetes as well as poor blood sugar control. About 60% of diabetics of 15 years' duration and above have some degree of the disorder. These people are at risk of developing blindness if left untreated.

## Types of Diabetic Retinopathy

### **Background Retinopathy**

This is an early stage of diabetic retinopathy. The retina usually shows tiny blood spots or fatty deposits.

This stage frequently goes unnoticed for years as the disease progresses slowly. Some patients however develop a gradual blurring of vision as the central retina (the macula) becomes affected. This is commonly due to closure of the blood vessels supplying the macula or thickening of the retina in the macula due to leakage from diseased blood vessels.

## Proliferative Retinopathy

This is an advanced stage of the disease and is responsible for most of the visual loss in diabetic retinopathy. New blood vessels grow on the surface of the retina and optic nerve. These immature blood vessels tend to bleed, giving rise to hemorrhage inside the eye. Scar tissues accompanying the bold vessels can contract and pull on the retina, causing the retina to detach from its wall (retinal detachment) resulting in loss of vision. New vessels can also grow on the iris to cause high eye pressures (glaucoma) giving rise to severe eye pain and eventual blindness.

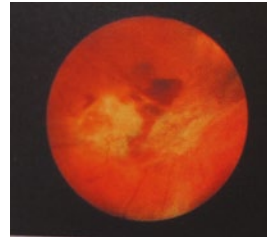
## Treatment

Timely treatment with laser photocoagulation will stop leakage from the damaged blood vessels. It can improve early visual loss as well as reducing the chance of severe visual loss at advanced stages of the disease.

Laser treatments carried out as outpatient procedures and do not require hospital admissions. During the procedure, a powerful beam of laser light is focused onto the damaged retina. Small bursts of laser energy are then delivered to seal off leaking blood vessels or obliterate the new blood vessels. It takes a few weeks for the benefits of the treatment to become obvious.

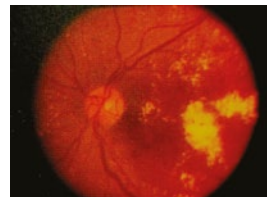
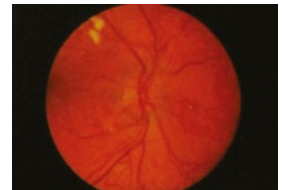
In advanced diabetic retinopathy, hemorrhage inside the eye and retinal detachment may require complicated intraocular procedures (vitrectomy) to correct. The outlooks for these eyes tend to be poor.

Good control of blood sugar is most important in preventing and slowing diabetic retinopathy, as well as the adverse effects of diabetes on the kidneys and the nervous system. With time, however, the vast majority of diabetics will develop the disorder. Hence, all patients with diabetes should have regular comprehensive eye examination with their Ophthalmologists.



Diabetic retinopathy:  
leakage retinal blood vessel

New blood vessel in proliferative  
diabetic retinopathy



Severe diabetic retinopathy with  
retinal detachment and hemorrhage

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