A fundus photograph of a human eye, showing the optic disc on the left and a network of retinal blood vessels. The image has a warm, orange-brown color palette. The text 'THE DIABETIC EYE' is overlaid in white, bold, sans-serif font in the upper left quadrant.

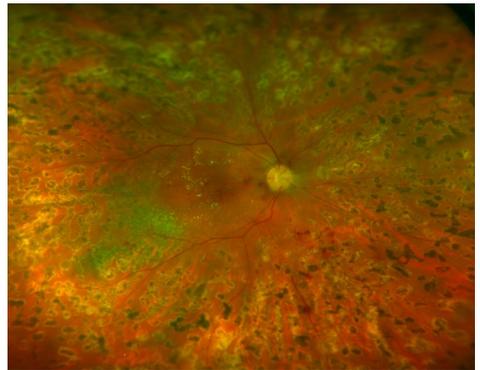
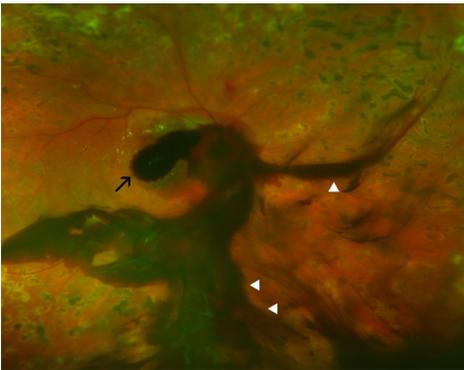
# THE DIABETIC EYE

FUNDACIÓN | IMO

# DIABETIC RETINOPATHY

Diabetes is a highly prevalent disease affecting 13% of the Spanish population that is increasing and hence becoming the most frequent metabolic disease. Bad monitoring of the pathology, which usually evolves slowly and silently, can result in complications seriously affecting the quality of life of these patients, whose risk of severe vision loss is 25 times higher than that of the remaining population.

One of the main complications of diabetes is diabetic retinopathy, a disease that has become the main cause of irreversible blindness at a working age in industrialised countries, although it is avoidable in 90% of cases, if treated early and appropriately. Thus, regular examinations (at least annually) of the retina are essential, which, together with a strict metabolic control and the adoption of healthy habits, avoid important losses of vision due to diabetes.



## WHY DOES IT OCCUR?

Metabolic decompensation of diabetes damages the cells and blood vessels of the retina, which become more permeable and fragile, while maintaining the high levels of glycaemia. The spontaneous creation of new fragile bleeding vessels can be derived from that (proliferative diabetic retinopathy), which turns the vitreous humour opaque and reduces vision in a generally abrupt way.

The accumulation of fluid in the central area of the retina due to leaking damaged blood vessels results in macular oedema, the main complication of diabetic retinopathy, which affects 20% of these patients.

# HOW TO DEAL WITH DIABETIC RETINOPATHY

## SYMPTOMS

Diabetic retinopathy is usually asymptomatic at the early stages, although at advanced stages it can have devastating effects for vision, in the event it is not detected and treated in due time.

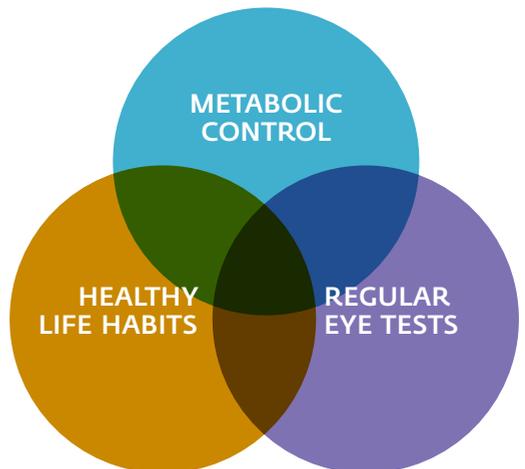
In some cases, it can show the following symptoms:

- Blurred vision and gradual loss of visual acuity
- Spots or floaters
- Shadows or lost vision areas
- Difficulties in night vision

## PREVENTION

It is estimated that more than half of patients who have suffered from diabetes for 15 or more years have some degree of retinal vascular disorder and almost all with a history of more than 30 years show signs of diabetic retinopathy. To slow down its appearance or improve its prognosis, it is essential that patients get involved. Specialists recommend:

- Carrying out a strict metabolic control of the risk factors: glycemia, blood pressure and plasma lipids.
- Adopting healthy life habits and avoiding obesity, a sedentary life style and tobacco consumption.
- Having the fundus tested once a year and intensifying eye examinations, if a problem is detected, as indicated by the specialist.



## RECOMMENDED VISITS SCHEDULE

Overall, this is the schedule of ophthalmological visits recommended for diabetic patients, depending on the type of diabetes, the lapse of evolution and the degree of diabetic retinopathy (with or without macular oedema):

### NO SUSPECTED DIABETIC RETINOPATHY

Diabetes type	First visit	Follow-up
Type 1 diabetes (less than 10 years of evolution)	3 years after onset	Annually
Type 2 diabetes	Upon diagnosis	Annually
Pregnancy in diabetic women	Before finishing the first quarter	Quarterly



### WITH DIABETIC RETINOPATHY

Degree of diabetic retinopathy	Presence of macular oedema	Follow-up
Mild non-proliferative diabetic retinopathy	No	12 months
	Yes	3-4 months*
Moderate non-proliferative diabetic retinopathy	No	6 months
	Yes	3 months*
Severe non-proliferative diabetic retinopathy	No	4 months
	Yes	3 months*
Proliferative diabetic retinopathy	Irrelevant	Varying, depending on whether it is stable and/or treatment is required

(\*) If no treatment is required.

## COMPREHENSIVE APPROACH

In addition to patient involvement, cooperation between ophthalmologists, optometrists, endocrinologists and diabetes teachers is also key for a comprehensive management of the disease and its ocular complications, hence preventing them from reaching severe stages.

## TREATMENT

Depending on the affected area and the degree of development of the disease, there are different treatment options:

- Photocoagulation with thermal laser for the treatment of proliferative retinopathy and some macular oedemas.
- Vitrectomy: surgery that removes the vitreous gel and is used in case of dense vitreous haemorrhage and/or traction on the retinal level.
- Intravitreal injections: drugs are injected locally into the vitreous humour to reduce diabetic macular oedema. Currently, there are different types of drugs.

*Information prepared by the Diabetic Retinopathy Unit. Retina and Vitreous Department at the IMO.*





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