

## WHAT DOES DIABETES HAVE TO DO WITH YOUR EYES?



### DEAR PATIENT,

Diabetes mellitus may cause damage to the retina in your eyes. Your doctor will describe this condition as *diabetic retinopathy* or *diabetic maculopathy*. Both can lead to a worsening of your eyesight. For this reason preventive action and treatment are important.

#### At a glance: damage to the retina

- Diabetes may cause damage to the retina. Sometimes, this damage leads to poorer vision.
- Experts recommend regular check-ups of your eyes. If there are no signs of damage, check-ups every 1 to 2 years are sufficient.
- Damage to the retina can be treated by laser surgery or with medication. Immediate treatment is not always required.

### ► RISK FACTORS AND WARNING SIGNS

A number of factors can, however, aggravate damage to the retina (risk factors) and some signs may indicate this (warning signs).

There is a higher risk of damage to the retina if you have:

- a persistently high blood sugar level
- had diabetes for a long time
- high blood pressure

Often, you don't notice any changes to your eyes at first. You should take it as a warning if:

- you start having problems reading
- your vision is distorted or blurred
- your colour vision is impaired
- you suddenly see spots or floaters in front of your eyes

### ► WHEN SHOULD YOU GO AND SEE AN EYE DOCTOR?

Experts recommend visiting your eye doctor:

- for type 2 diabetes: as soon as you find out that you have diabetes
- for type 1 diabetes: from age 10 or at the latest 5 years after being diagnosed with diabetes

As long as no damage to the retina has been detected, go for check-ups:

- every 2 years if you present a low risk of damage to the retina
- once a year if you present a high risk of damage to the retina

Your family doctor and eye doctor will assess whether you present a low or a high risk.

If damage has been detected, frequent check-ups are recommended. If warning signs appear, go and see a doctor immediately.

### ► EXAMINATIONS

Each examination begins with some questions. The eye doctor should have a notification from your family doctor or diabetologist. There are special forms for this. Mention any medication you are on as well and whether you have any other illnesses.

During the examination of the back of the eye, your eye doctor dilates the pupils with eye drops to perform a better and thorough examination of the retina. In specific cases a special camera is used to examine blood circulation in the back of the eyes. In this case, a dye is injected into one of your veins.

Your eye doctor examines your visual acuity using eye charts which you are asked to read out loud from a specified distance. Your eye doctor uses a special microscope to examine the front of your eyes.

# PATIENT INFORMATION

## ▶ Diabetes and Your Eyes

### ▶ TREATMENT

Treatment can be divided into two areas: Your family doctor or a diabetologist treats your diabetes and high blood pressure. Your eye doctor treats any detected changes to your eyes.

The type of treatment depends on the stage of the disease:

- If only minor damage has been detected, treatment is not recommended. The associated risks are greater than any benefits.
- If the damage is more advanced, damaged areas can be treated with laser surgery. This can prevent serious vision loss in around 3 out of 100 affected individuals.
- If the site of sharp central vision, the *fovea*, is also affected, medication injected directly into the eye can help. In this context it is more effective than laser surgery: This type of treatment improves vision in around 30 out of 100 affected individuals. Laser surgery has shown improved vision in 10 out of 100 affected individuals. The injections need to be repeated every 1 to 3 months.
- A special examination is required prior to this treatment: *optical coherence tomography (OCT)*. It is not covered by health insurance.
- In serious cases, surgery known as *vitrectomy* can be performed to stop bleeding in and remove growths from the eyes.

### ▶ WHAT YOU CAN DO

- Special forms are available in which each of your doctors should record and share your test results. Mention this to your diabetes care team and ask for a copy.
- Special education courses are available for people with diabetes. They help you to cope with your illness and achieve your treatment goals.
- Be sure to attend all appointments with your eye doctor.
- Pay attention to regular blood sugar monitoring.
- A healthy lifestyle can help prevent any negative consequences of diabetes. This includes, for instance, not smoking, getting plenty of exercise and keeping an eye on your diet and your weight.
- Talk to other people with the same illness, for instance in a self-help group.

You will find further facts and practical tips in the information material on the subject of diabetes (see box). You can attend a diabetes management programme (DMP Diabetes). The goal is to coordinate care by your family doctor and specialists. Talk to your doctor about this option.

### ▶ MORE INFORMATION

This Patient Information is based on the **Patient Guideline “Diabetes – Damage to the retina: prevention and treatment”**: [www.patienten-information.de/patientenleitlinien](http://www.patienten-information.de/patientenleitlinien)

The Patient Information was prepared as part of the Programme for National Care Guidelines. It has the backing of the Germany Medical Association, the National Associations of Statutory Health Insurance Physicians and the Association of Scientific Medical Societies.

Further brief information on the subject “Diabetes”: [www.patinfo.org](http://www.patinfo.org)

Methodology and sources can be accessed here:

[www.patienten-information.de/kurzinformationen/quellen-und-methodik/diabetes-auge](http://www.patienten-information.de/kurzinformationen/quellen-und-methodik/diabetes-auge)

#### **Contact to self-help groups**

You can find out from NAKOS (national contact and information office for the encouragement and support of self-help groups) where there is a self-help group in your area: [www.nakos.de](http://www.nakos.de), Tel.: 030 3101 8960

DOI: 10.6101/AZQ/000339

Responsible for the content:  
German Agency for Quality in Medicine (ÄZQ)  
Joint institution of BÄK and KBV  
Tel.: 030 4005-2501 • Telefax: 030 4005-2555  
Email/Contact: [mail@patinfo.org](mailto:mail@patinfo.org)  
[www.patinfo.org](http://www.patinfo.org)  
[www.aezq.de](http://www.aezq.de)



With the compliments of