

visited 7/25/2008

[Skip navigation](#)[Search MedlinePlus](#)[About MedlinePlus](#) | [Site Map](#) | [FAQs](#) | [Contact Us](#)[Home](#) [Health Topics](#) [Drugs & Supplements](#) [Encyclopedia](#) [Dictionary](#) [News](#) [Directories](#) [Other Resources](#)[español](#)

Medical Encyclopedia

Other encyclopedia topics: [A-Ag](#) [Ah-Ap](#) [Aq-Az](#) [B-Bk](#) [Bl-Bz](#) [C-Cg](#) [Ch-Co](#) [Cp-Cz](#) [D-Di](#) [Dj-Dz](#) [E-Ep](#) [Eq-Ez](#) [F](#) [G](#) [H-Hf](#) [Hg-Hz](#) [I-In](#) [Io-Iz](#) [J](#) [K](#) [L-Ln](#) [Lo-Lz](#) [M-Mf](#) [Mg-Mz](#) [N](#) [O](#) [P-Pl](#) [Pm-Pz](#) [Q](#) [R](#) [S-Sh](#) [Si-Sp](#) [Sq-Sz](#) [T-Tn](#) [To-Tz](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) [0-9](#)

Diabetic retinopathy

[Printer-friendly version](#)[E-mail to a friend](#)

Contents of this page:

- [Illustrations](#)
- [Alternative Names](#)
- [Definition](#)
- [Causes](#)
- [Symptoms](#)
- [Exams and Tests](#)
- [Treatment](#)
- [Support Groups](#)
- [Outlook \(Prognosis\)](#)
- [Possible Complications](#)
- [When to Contact a Medical Professional](#)
- [Prevention](#)
- [References](#)

Illustrations

[Slit-lamp exam](#)

Alternative Names [Return to top](#)

Retinopathy - diabetic

Definition [Return to top](#)

Diabetic retinopathy is damage to the eye's retina that occurs with long-term diabetes.

Causes [Return to top](#)

visited 7/25/2008

Diabetic retinopathy is caused by damage to blood vessels of the retina, the light-sensitive inner layer of the eye.

There are two types: non-proliferative or proliferative.

- Non-proliferative diabetic retinopathy is the early stage of the disease and is less severe. Blood vessels in the eye start to leak fluid into the retina, which leads to blurred vision.
- Proliferative retinopathy is the more advanced form of the disease, and more severe. New blood vessels start to grow in the eye. These new vessels are fragile and can bleed (hemorrhage), which may cause vision loss and scarring of the retina.

Diabetic retinopathy is the leading cause of blindness in working-age Americans. People with both [type 1 diabetes](#) and [type 2 diabetes](#) are at risk for this condition.

Having more severe diabetes for a longer period of time increases the chance of getting retinopathy. Retinopathy is also more likely to occur earlier and be more severe if your diabetes is poorly controlled. Almost everyone who has had diabetes for more than 30 years will show signs of diabetic retinopathy.

Symptoms [Return to top](#)

Symptoms of diabetic retinopathy include:

- Blindness
- Blurred vision
- [Floaters](#)
- Shadows or missing areas of vision

Many people with early diabetic retinopathy have no symptoms before major bleeding occurs in the eye. This is why everyone with diabetes should have regular eye exams.

Exams and Tests [Return to top](#)

In nearly all cases, the health care provider can diagnose diabetic retinopathy by dilating the pupils with eye drops and then carefully examining the retina. A [retinal photography](#) or [fluorescein angiography](#) test may also be used.

Treatment [Return to top](#)

Treatment usually does not reverse damage that has already occurred, but it will keep the disease from getting worse. Drugs are being developed that keep abnormal blood vessels from growing in patients with proliferative diabetic retinopathy.

[Laser surgery](#) or photocoagulation may be used to keep vessels from leaking or to get rid of abnormal fragile vessels.

A surgical procedure called vitrectomy is used when there is bleeding (hemorrhage) into the eye. It may also be used to repair [retinal detachment](#).

Support Groups [Return to top](#)

visited 7/25/2008

American Diabetes Association - www.diabetes.org

National Diabetes Information Clearinghouse - www.diabetes.niddk.nih.gov

Prevent Blindness America - www.preventblindness.org

Outlook (Prognosis) [Return to top](#)

You can improve your outcome by keeping good control of your blood sugar and blood pressure.

Diabetic retinopathy can lead to [blindness](#) without treatment.

Possible Complications [Return to top](#)

- Blindness
- [Glaucoma](#)
- Retinal detachment

When to Contact a Medical Professional [Return to top](#)

Call for an appointment with an eye doctor (ophthalmologist) if you have [diabetes](#) and you have not seen an ophthalmologist in the past year.

Prevention [Return to top](#)

Tight control of blood sugar, blood pressure, and cholesterol is very important for preventing diabetic retinopathy.

People with diabetes should begin having eye examinations as follows:

- Children older than 10 years who have had diabetes for 3 - 5 years or more
- Adults with type 2 diabetes soon after diagnosis
- Adolescents and adults with type 1 diabetes within 5 years of diagnosis

After the first exam, most patients should have a yearly eye exam.

If you are beginning a new exercise program or are planning to get pregnant, have your eyes examined. Avoid resistance or high-impact exercises, which can strain already weakened blood vessels in the eyes.

References [Return to top](#)

Sydorova M, Lee MS. Vascular Endothelial Growth Factor Levels in Vitreous and Serum of Patients with either Proliferative Diabetic Retinopathy or Proliferative Vitreoretinopathy. *Ophthalmic Res.* 2005 Jun 29;37(4):188-190.

Singerman L. Findings of the Phase 2 Trial of the Safety and Efficacy of Pegaptanib Sodium (Macugen™) in Patients With Diabetic Macular Edema. *Invest Ophthalmol Vis Sci* 2005;46: E-Abstract 4674.

Rosenblatt RJ, Benson WJ. Diabetic Retinopathy. In: Yanoff M, ed. *Ophthalmology*. 2nd ed. St. Louis, MO: Mosby; 2004;877-887.

visited 7/25/2008

American Diabetes Association (ADA). Standards of Medical Care in Diabetes. *Diabetes Care*. 2008;31:S1-S12.

Update Date: 4/22/2008

Updated by: Andrew A. Dahl, M.D., F.A.C.S., Director of Ophthalmology Training, Institute for Family Health, Assistant Professor of Ophthalmology, New York College of Medicine, New York, NY. Review provided by VeriMed Healthcare Network. Also reviewed by David Zieve, MD, MHA, Medical Director, A.D.A.M., Inc.



A.D.A.M., Inc. is accredited by URAC, also known as the American Accreditation HealthCare Commission (www.urac.org). URAC's [accreditation program](#) is the first of its kind, requiring compliance with 53 standards of quality and accountability, verified by independent audit. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s [editorial process](#). A.D.A.M. is also a founding member of Hi-Ethics (www.hiethics.com) and subscribes to the principles of the Health on the Net Foundation (www.hon.ch).

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed physician should be consulted for diagnosis and treatment of any and all medical conditions. Call 911 for all medical emergencies. Links to other sites are provided for information only -- they do not constitute endorsements of those other sites. Copyright 1997-2008, A.D.A.M., Inc. Any duplication or distribution of the information contained herein is strictly prohibited.

[Home](#) | [Health Topics](#) | [Drugs & Supplements](#) | [Encyclopedia](#) | [Dictionary](#) | [News](#) | [Directories](#) | [Other Resources](#)

[Copyright](#) | [Privacy](#) | [Accessibility](#) | [Quality Guidelines](#)

[U.S. National Library of Medicine](#), 8600 Rockville Pike, Bethesda, MD 20894

[National Institutes of Health](#) | [Department of Health & Human Services](#)

Page last updated: 04 August 2008