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URL of this page: <https://medlineplus.gov/diabeticneyeproblems.html>

Diabetic Eye Problems

Also called: Diabetic retinopathy

What is diabetes?

Diabetes [<https://medlineplus.gov/diabetes.html>] is a disease in which your blood glucose [<https://medlineplus.gov/bloodglucose.html>] , or blood sugar, levels are too high. Glucose comes from foods you eat. The cells of your body need glucose for energy. A hormone called insulin helps the glucose get into your cells.

With type 1 diabetes [<https://medlineplus.gov/diabetestype1.html>] , your body doesn't make insulin. With type 2 diabetes [<https://medlineplus.gov/diabetestype2.html>] , your body doesn't make or use insulin well. Without enough insulin, glucose builds up in your blood and causes high blood glucose levels.

What eye problems can diabetes cause?

Over time, high blood glucose may damage the blood vessels and lenses in your eyes. This can lead to serious diabetic eye problems which can harm your vision and sometimes cause blindness

[<https://medlineplus.gov/visionimpairmentandblindness.html>] . Some common diabetic eye problems include:

- **Diabetic retinopathy**, which is the leading cause of blindness in American adults. It affects blood vessels in the retina (the light-sensitive layer of tissue in the back of your eye). The blood vessels may swell and leak fluid into your eye. If it's not treated, it can cause serious problems such as vision loss and **retinal detachment** [<https://medlineplus.gov/retinaldetachment.html>] , where the retina is pulled away from its normal position at the back of your eye.
- **Diabetic macular edema (DME)**, which happens when blood vessels in the retina leak fluid into the macula (the part of the retina needed for sharp, central vision). This usually develops in people who already have other signs of diabetic retinopathy.
- **Glaucoma** [<https://medlineplus.gov/glaucoma.html>] , a group of eye diseases that can damage the **optic nerve** [<https://medlineplus.gov/opticnervedisorders.html>] (the bundle of nerves that connects the eye to the brain). Glaucoma from diabetes happens when the blood vessels in the front of your eye are damaged, and new blood vessels grow near the iris (the colored part of your eye). The blood vessels block the space where fluid drains from your eye. This causes fluid to build up and pressure to increase inside your eye.
- **Cataract** [<https://medlineplus.gov/cataract.html>] , which is the leading cause of blindness worldwide. It happens when the clear lens in the front of your eye becomes cloudy. Cataracts are common as people age. But people with diabetes are more likely to develop cataracts younger and faster than people without diabetes. Researchers think that high glucose levels cause deposits to build up in the lenses of your eyes.

Who is more likely to develop diabetic eye problems?

Anyone with diabetes can develop diabetic eye disease. But your risk of developing it is higher if you have diabetes and:

- Have had diabetes for a long time
- Don't have good control over your high blood glucose or high blood pressure [<https://medlineplus.gov/highbloodpressure.html>]
- Are pregnant [<https://medlineplus.gov/diabetesandpregnancy.html>]
- Have high blood cholesterol [<https://medlineplus.gov/cholesterol.html>]
- Smoke tobacco [<https://medlineplus.gov/smoking.html>]

What are the symptoms of diabetic eye problems?

In the early stages, diabetic eye problems usually don't have any symptoms. That's why regular dilated eye exams [<https://medlineplus.gov/eyecare.html>] are so important, even if you think your eyes are healthy.

You should also watch for sudden changes in your vision that could be signs of an emergency. Call your eye care professional right away if you notice any of these symptoms:

- Many new spots or dark wavy strings floating in your vision (floaters)
- Flashes of light
- A dark shadow over part of your vision, like a curtain
- Vision loss
- Eye pain or redness

Talk with your eye care professional if you have these symptoms, even if they come and go:

- Spots or dark wavy strings floating in your vision
- Blurry or wavy vision
- Vision that changes a lot
- Trouble seeing colors

How are diabetic eye problems diagnosed?

Eye care professionals do dilated eye exams to diagnose eye problems. A dilated eye exam uses eye drops to open your pupils wide so your eye care professional can look for signs of eye problems and treat them before they harm your vision. They will also test your vision and measure the pressure in your eyes.

What are the treatments for diabetic eye problems?




Treatment for diabetic eye problems depends on the problem and how serious it is. Some of the treatments include:

- Lasers to stop blood vessels from leaking
- Injections (shots) in the eye to stop new, leaky blood vessels from growing
- Surgery to remove blood and scar tissue or replace a cloudy lens
- Eye drops to lower fluid pressure in the eye

But these treatments aren't cures. Eye problems can come back. That's why your best defense against serious vision loss is to take control of your diabetes and get regular eye exams. It's also important to keep your blood pressure [<https://medlineplus.gov/howtopreventhighbloodpressure.html>] and cholesterol [<https://medlineplus.gov/howtolowercholesterol.html>] in a healthy range.

NIH: National Institute of Diabetes and Digestive and Kidney Diseases

Start Here

- Diabetic Eye Disease [<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/diabetic-eye-disease>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/informacion-general/prevenir-problemas/ojos>]
- Diabetic Retinopathy [<https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/diabetic-retinopathy>]  (National Eye Institute)
- Diabetic Retinopathy: Causes, Symptoms, Treatment [<https://www.aao.org/eye-health/diseases/what-is-diabetic-retinopathy>]  (American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/enfermedades/retinopatia-diabetica>]
- Eye Complications [<https://diabetes.org/about-diabetes/complications/eye-complications>] (American Diabetes Association)




Symptoms

- Eye Symptoms [<https://www.aao.org/eye-health/symptoms-list>] (American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/sintomas-lista>]



Diagnosis and Tests

- Dilating Eye Drops [<https://www.aapos.org/glossary/dilating-eye-drops>]
(American Association for Pediatric Ophthalmology and Strabismus)
- Eye Exam and Vision Testing Basics [<https://www.aao.org/eye-health/tips-prevention/eye-exams-101>]
(American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/consejos/examenes-de-los-ojos-101>]


Prevention and Risk Factors

- Diabetic Eye Disease [<https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/diabetic-eye-disease>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/diabetes/informacion-general/prevenir-problemas/ojos>]
- Eye Care: MedlinePlus Health Topic [<https://medlineplus.gov/eyecare.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/eyecare.html>]
- Stay on TRACK To Prevent Blindness From Diabetes [<https://www.nei.nih.gov/sites/default/files/2019-06/Stay-on-TRACK-To-Prevent-Blindness-From-Diabetes.pdf>]  (National Eye Institute) - PDF
Also in Spanish [<https://www.nei.nih.gov/sites/default/files/2023-03/Si-tiene-diabetes-siga-estos-consejos-prevenir-perdida-vision.pdf>]




Related Issues

- Talking with Your Eye Doctor [<https://www.nei.nih.gov/learn-about-eye-health/healthy-vision/finding-eye-doctor/talking-your-eye-doctor>]  (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/vision-saludable/encontrar-un-oculista/como-hablar-con-su-oculista>]
- What Is Macular Edema? [<https://www.aao.org/eye-health/diseases/what-is-macular-edema>]
 (American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/enfermedades/edema-macular>]


Images


- Eye Disease Simulations [<https://medialibrary.nei.nih.gov/search?keywords=&f%5B0%5D=category%3A8#main-content>]  (National Eye Institute)

Videos and Tutorials


- Diabetes - retinal conditions [<https://medlineplus.gov/ency/anatomyvideos/000040.htm>]  (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000040.htm>]
- Diabetic Retinopathy Videos [<https://www.aao.org/eye-health/diseases/diabetic-retinopathy-videos>]
 (American Academy of Ophthalmology)
- Retina [<https://medlineplus.gov/ency/anatomyvideos/000106.htm>]  (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000106.htm>]

Statistics and Research

- Eye Health Data and Statistics [<https://www.nei.nih.gov/learn-about-eye-health/eye-health-data-and-statistics>]  (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/datos-y-estadisticas-relacionadas-con-la-salud-ocular>]
- NEI-Funded Study Shows Low Blood Sugar Contributes to Eye Damage and Vision Loss in Diabetic Retinopathy [<https://www.nei.nih.gov/about/news-and-events/news/nei-funded-study-shows-low-blood-sugar-contributes-eye-damage>]

and-vision-loss-diabetic-retinopathy]  (National Eye Institute)

Clinical Trials



- ClinicalTrials.gov: Diabetic Retinopathy [<https://clinicaltrials.gov/search?cond=%22Diabetic+Retinopathy%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles





References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Intravitreal aflibercept alone versus combination with dexamethasone phosphate for diabetic macular... [<https://www.ncbi.nlm.nih.gov/pubmed/40699120>]
- Article: Assessing the Role of Statins as an Adjunctive Anti-VEGF Therapy for... [<https://www.ncbi.nlm.nih.gov/pubmed/40698099>]
- Article: Baseline factors affecting diabetic macular oedema resolution after intravitreal dexamethasone implant... [<https://www.ncbi.nlm.nih.gov/pubmed/40634898>]
- Diabetic Eye Problems -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Diabetic+Retinopathy%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Reference Desk

- How the Eyes Work [<https://www.nei.nih.gov/learn-about-eye-health/healthy-vision/how-eyes-work>]  (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/vision-saludable/como-funcionan-los-ojos>]
- NEI for Kids: Glossary [<https://www.nei.nih.gov/learn-about-eye-health/nei-for-kids/glossary>]  (National Eye Institute)

Find an Expert

- American Diabetes Association [<https://diabetes.org/>]
- American Foundation for the Blind [<https://www.afb.org/>]
- Find an Ophthalmologist [<https://secure.aao.org/aao/find-ophthalmologist>] (American Academy of Ophthalmology)
Also in Spanish [<https://secure.aao.org/aao/encontrar-oftalmologo>]
- Finding an Eye Doctor [<https://www.nei.nih.gov/learn-about-eye-health/healthy-vision/finding-eye-doctor>]  (National Eye Institute)
- National Eye Institute [<https://www.nei.nih.gov/>] 
- National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>] 
- NIDDK Information Clearinghouses and Health Information Center [<https://www.niddk.nih.gov/health-information/community-health-outreach/information-clearinghouses>]  (National Institute of Diabetes and Digestive and Kidney Diseases)

Patient Handouts

- Diabetes and eye disease [<https://medlineplus.gov/ency/article/001212.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/001212.htm>]
- Diabetes eye care [<https://medlineplus.gov/ency/patientinstructions/000078.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000078.htm>]
- Diabetes eye exams [<https://medlineplus.gov/ency/patientinstructions/000323.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000323.htm>]
- Fluorescein angiography [<https://medlineplus.gov/ency/article/003846.htm>] (Medical Encyclopedia)

Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003846.htm>]

- **Intravitreal injection** [<https://medlineplus.gov/ency/article/007629.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007629.htm>]
- **Laser photocoagulation - eye** [<https://medlineplus.gov/ency/article/007664.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007664.htm>]
- **Standard eye exam** [<https://medlineplus.gov/ency/article/003434.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003434.htm>]



MEDICAL ENCYCLOPEDIA

Diabetes - retinal conditions [<https://medlineplus.gov/ency/anatomyvideos/000040.htm>]

Diabetes and eye disease [<https://medlineplus.gov/ency/article/001212.htm>]

Diabetes eye care [<https://medlineplus.gov/ency/patientinstructions/000078.htm>]

Diabetes eye exams [<https://medlineplus.gov/ency/patientinstructions/000323.htm>]

Fluorescein angiography [<https://medlineplus.gov/ency/article/003846.htm>]

Intravitreal injection [<https://medlineplus.gov/ency/article/007629.htm>]

Laser photocoagulation - eye [<https://medlineplus.gov/ency/article/007664.htm>]

Retina [<https://medlineplus.gov/ency/anatomyvideos/000106.htm>]

Standard eye exam [<https://medlineplus.gov/ency/article/003434.htm>]

Related Health Topics

Diabetes [<https://medlineplus.gov/diabetes.html>]

Diabetes Complications [<https://medlineplus.gov/diabetescomplications.html>]

Vision Impairment and Blindness [<https://medlineplus.gov/visionimpairmentandblindness.html>]

National Institutes of Health

The primary NIH organization for research on *Diabetic Eye Problems* is the National Eye Institute [<https://nei.nih.gov/>]

Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/diabeticceyeproblems.html>] on *Diabetic Eye Problems*

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