



Committed to your health and our community

## Diabetic Eye Disease Month

November is **Diabetic Eye Disease Awareness Month**, which aims to increase awareness of diabetes and diabetic eye disease and encourage people with diabetes to seek treatment for vision problems related to diabetes. You can learn more about diabetes at [What Is Diabetes?](#) According to [Prevent Blindness America](#), diabetes is the leading cause of new cases of blindness in adults—and all people with diabetes are at risk for vision loss and blindness from diabetic eye disease. African Americans, Native Americans, Alaska Natives, Hispanics, Latinos, and older adults with diabetes are especially at higher risk. In addition, an emerging body of research in diabetes, vision, and health care indicates that significant differences in the

quality and equality of eye care exist throughout the United States, specifically in the [African American](#) & [Latino](#) communities.

### More About the Different Types of Diabetic Eye Disease Diabetic Retinopathy

Although people with diabetes are more likely to develop [cataracts](#) at a younger age and are twice as likely to develop [glaucoma](#) as people who do not have diabetes, the primary vision problem caused by diabetes is [diabetic retinopathy](#), **the leading cause of new cases of blindness and [low vision](#) in adults aged 20-65:**

- "Retinopathy" is a general term that describes damage to the retina.
- The [retina is a thin, light-sensitive tissue](#) that lines the inside surface of the

# Yelm Family Medicine Patient Newsletter

We will be **CLOSED** Thursday, November 22<sup>nd</sup>. We will reopen Friday, November 23<sup>rd</sup> at 9 AM. Have a safe and fun holiday.



- eye. Nerve cells in the retina convert incoming
- light into electrical impulses. These electrical impulses are carried by the optic nerve to the brain, which interprets them as visual images.
- Diabetic retinopathy occurs when there is damage to the small blood vessels that nourish tissue and nerve cells in the retina.
- "Proliferative" is a general term that means to grow or increase at a rapid rate by producing new tissue or cells. When the term "proliferative" is used in relation to diabetic retinopathy, it describes the growth, or proliferation, of abnormal new blood vessels in the retina. "Non-proliferative" indicates that this process is not yet occurring.
- Proliferative diabetic retinopathy affects approximately 1 in 20 individuals with the disease.

### Four Stages of Diabetic Retinopathy

According to the National Eye Institute, diabetic retinopathy has four stages:

- **Mild non-proliferative retinopathy:** At this early stage, small areas of balloon-like swelling occur in the retina's tiny blood vessels.
- **Moderate non-proliferative retinopathy:** As the disease progresses, some blood vessels that nourish the retina become blocked.
- **Severe non-proliferative retinopathy:** Many more blood vessels become blocked, which disrupts the blood supply that nourishes the retina. The damaged retina then signals the body to produce new blood vessels.
- **Proliferative retinopathy:** At this advanced stage, signals sent by the retina trigger the development of new blood vessels that grow (or proliferate) in the retina and the vitreous, which is a transparent gel that fills the interior of the eye. Because these new blood vessels are abnormal, they can rupture and bleed, causing hemorrhages in the retina or vitreous. Scar tissue can develop and can tug at the retina, causing further

damage or even retinal detachment.

### Diabetic Macular Edema

**Diabetic macular edema** [*edema = a swelling or accumulation of fluid*] (DME) can occur in people with diabetes when retinal blood vessels begin to leak into the macula, [the part of the eye](#) responsible for detailed central vision. These leakages cause the macula to thicken and swell, which, in turn, creates a progressive distortion of central vision.

Although this swelling does not always lead to severe vision loss or blindness, it can cause a significant loss of central, or detail, vision, and is the primary cause of vision loss in people with [diabetic retinopathy](#). DME can occur at any stage of diabetic retinopathy, but it is more likely to occur as the disease progresses.

### How Your Doctor Can Diagnose Diabetic Eye Disease

**Diabetic retinopathy** usually has no early warning signs. It can be detected only through a [comprehensive eye examination](#) that looks for early signs of the disease, including:

- Leaking blood vessels
- Macular edema (swelling)
- Pale, fatty deposits on the [retina](#)
- Damaged nerve tissue

- Any changes to the retinal blood vessels

To diagnose diabetic eye disease effectively, eye care specialists recommend a comprehensive diabetic eye examination that includes the following procedures:

- Distance and near vision [acuity tests](#)
- A [comprehensive dilated eye examination](#), which includes the use of an ophthalmoscope. In a dilated eye examination, it is the [pupil](#) that is dilated—not the entire eye. This allows the examiner to see through the pupil to the [retina](#). Visual acuity tests alone are not sufficient to detect diabetic retinopathy in its early stages.
- A [tonometry test](#) to measure fluid pressure inside the eye.
- A **fluorescein angiography** test, if more serious retinal changes, such as macular edema, are suspected. Fluorescein angiography is an eye test that uses a special dye and camera to look at blood flow in the retina.
- Your doctor may also use **optical coherence tomography** (OCT) testing to get a clearer

picture of the retina and its supporting layers. OCT is a type of medical imaging technology that produces high-resolution cross-sectional and three-dimensional images of the eye.

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### **Can a Vision Screening Diagnose Diabetic Eye Disease?**

A **vision screening** is a relatively short examination that can indicate the presence of a vision problem, such as diabetic retinopathy, or a potential vision problem. A vision screening cannot diagnose diabetic eye disease; instead, it can indicate that you should make an appointment with an [ophthalmologist or optometrist](#) for a more comprehensive dilated eye examination.

### **What Is a Comprehensive Dilated Eye Examination?**

A comprehensive dilated eye examination generally lasts between 30 and 60 minutes, and is performed by an [ophthalmologist or optometrist](#). It should always include the following components:

#### **A Health and Medication History**

- Your overall health and that of your immediate family
- The medications you are taking (both prescription and over-the-counter)
- Questions about high blood pressure (hypertension), [diabetes](#), smoking, and sun exposure.

#### **A Vision History**

- How well you can see at present, including any recent changes in your vision
- Eye diseases that you or your family members have had, including [macular degeneration](#), [glaucoma](#), and [diabetic retinopathy](#).
- Previous eye treatments, surgeries, or injuries
- The date of your last eye examination

#### **An Eye Health Evaluation**

- An examination of the external parts of your eyes: the [whites of the eyes](#), the [iris](#), [pupil](#), eyelids, and eyelashes.

- A dilated internal eye examination: Special eye drops will dilate, or open, your pupil, which allows the doctor to observe the inner parts of your eye, such as the [retina](#) and [optic nerve](#). This can help to detect subtle changes of the optic nerve in persons without any visual symptoms and potentially lead to early detection of disease, including [diabetic retinopathy](#).
- A test of the [fluid pressure](#) within your eyes to check for the possibility of [glaucoma](#).

### A Refraction, or Visual Acuity Testing

Visual field testing helps determine how much side (or peripheral) vision you have and how much surrounding area you can see. Refraction helps determine the sharpness or clarity of both your near (reading) and distance vision. This includes testing your vision with different lenses (sometimes contained in a machine called a phoropter, pictured at right) to determine if your vision can be **Visual Field Testing**. The most common type of visual field test in a comprehensive eye exam is called

a confrontation field test, in which the doctor briefly flashes several fingers in each of the four quadrants (above, below, right, and left) of your visual field while seated opposite you. In some cases, your doctor may also want to perform a more precise visual field measurement, using a computerized visual field analyzer, such as the Humphrey Field Analyzer (pictured at left). Your Examination Results The doctor will be able to determine if the visual problems you are experiencing are normal age-related changes or are disease-related, and if additional testing, referral to another doctor or specialist, or treatments are needed. Learn more at [Questions You Should Ask When Seeing an Eye Care Specialist](#) at [VisionAware.org](#).

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