Project Power

American Diabetes Association. Connected for Life.

With strategic partner CVS Health.

A FREE PROGRAM TO REDUCE THE RISK OF TYPE 2 DIABETES

Session 4
Eye Q: A Focus on Eye Health and Diabetes

powered by habitnu

SESSION OVERVIEW

When you have diabetes, annual comprehensive and dilated eye exams are the best way to determine if your blood glucose (blood sugar) levels are affecting the health of your eyes.

During this session we will discuss:

1. Why you should schedule your annual dilated eye exam
2. Common diabetes-related eye diseases–and diabetes-related retinopathy
3. What to expect at your annual dilated eye exam
4. Preparing for a visit to your eye doctor

We will also review our habits, and build on them!

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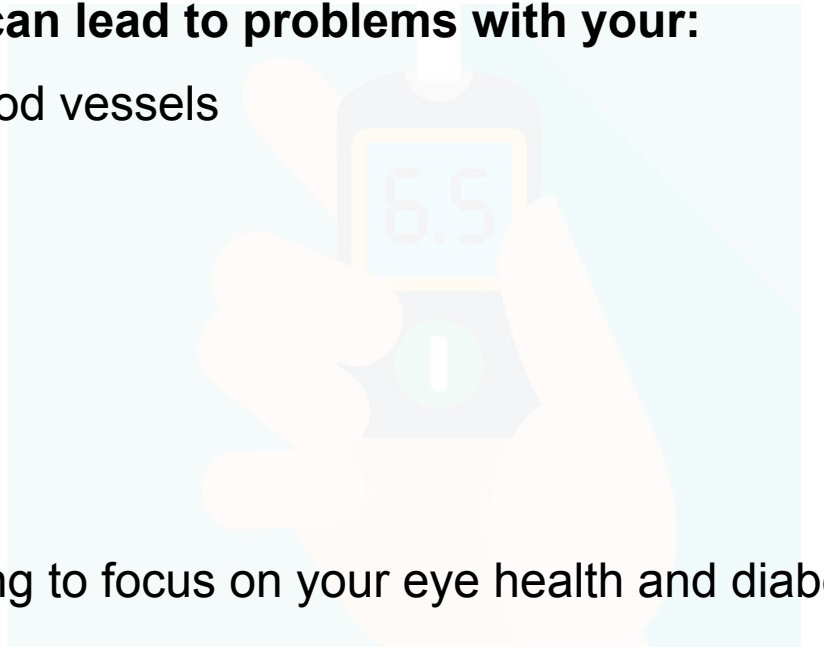
TYPE 2 DIABETES BASICS

- When you eat, your body breaks down food into glucose and sends it into your blood, which your body uses for energy.
- A hormone called insulin helps glucose leave the blood and enter the cells. This gives cells energy.
- In people with type 2 diabetes, the body doesn't make enough insulin or use insulin well. So, blood glucose stays in the blood instead of going into the cells this causes blood glucose levels to rise.

TYPE 2 DIABETES BASICS

Type 2 diabetes can lead to problems with your:

- Heart and blood vessels
- Nerves
- Kidneys
- Feet
- Gums
- Skin
- Eyes



Today, we are going to focus on your eye health and diabetes

WHY YOU SHOULD SCHEDULE YOUR EYE EXAM

- Even if your vision is completely normal and your eyes feel fine, you could be experiencing the early stages of a diabetes-related eye condition.
- The sooner you catch diabetes-related eye conditions, the quicker they can be treated to prevent them from getting worse.
- Your annual dilated eye exam is one of the best ways to protect your eyes and help prevent or delay vision loss.

WHY YOU SHOULD SCHEDULE YOUR EYE EXAM

Catching Diabetes Eye Complications Sooner Rather than Later

Your annual dilated eye exam will look for signs of these five common conditions:

1. Retinopathy: Leakage, bleeding, and abnormal growth in the blood vessels of your eye's retina that can cause vision loss.

2. Macular edema: Swelling and fluid build-up in the macula of your eye, which often coincides with retinopathy and can cause severe vision loss.

3. Cataracts: Cloudiness in the lens of your eye that can cause vision loss.

WHY YOU SHOULD SCHEDULE YOUR EYE EXAM

Catching Diabetes Eye Complications Sooner Rather than Later

Five common conditions continued…

4. Glaucoma: Increased fluid pressure in your eyes that can damage the optic nerve, resulting in vision loss if left untreated.

5. Dry eye: Elevated blood glucose levels increase the risk of infection in patients with dry eye diseases.

WHY YOU SHOULD SCHEDULE YOUR EYE EXAM

Catching Diabetes Eye Complications Sooner Rather than Later

These conditions can be managed or delayed through managing blood glucose levels and reaching your blood glucose targets.

You should contact your eye doctor (ophthalmologist or optometrist) immediately if you're experiencing any of the following:

- Difficulty reading or focusing on things close-up
- Blurriness or double vision
- Pressure or pain in your eyes
- Presence of flashing lights, dark spots, or missing pieces in your vision
- Appearance of floaters (moving spots or lines), especially when these are numerous
- Appearance of red streaks in your vision
- Worsening of your night vision

WHY YOU SHOULD SCHEDULE YOUR EYE EXAM

Catching Diabetes Eye Complications Sooner Rather than Later

The most important thing to remember is that diabetes-related eye disease typically causes few or no symptoms until it is severe, so you should receive regular, dilated eye exams even when you have no symptoms.

YOUR ANNUAL DILATED EYE EXAM

Your annual comprehensive and dilated eye exam includes these four tests:

- Visual acuity testing: Using an eye chart to help determine your overall vision and whether you need glasses/contacts or an update to your current prescription.
- Tonometry: Measures the pressure in your eye. High pressure could mean you're at risk for glaucoma, of which there are several types.
- Retinal imaging: Use of an imaging device that allows the eye doctor to detect very subtle changes to the health of your eyes.
- Dilated eye exam: After applying eye drops that enlarge your pupils, your eye doctor will be able to look into the back of your eye to detect any eye diseases that are more common in people with diabetes. This is the most important test for people with diabetes.

YOUR ANNUAL DILATED EYE EXAM

How Often do I Need an Eye Exam?

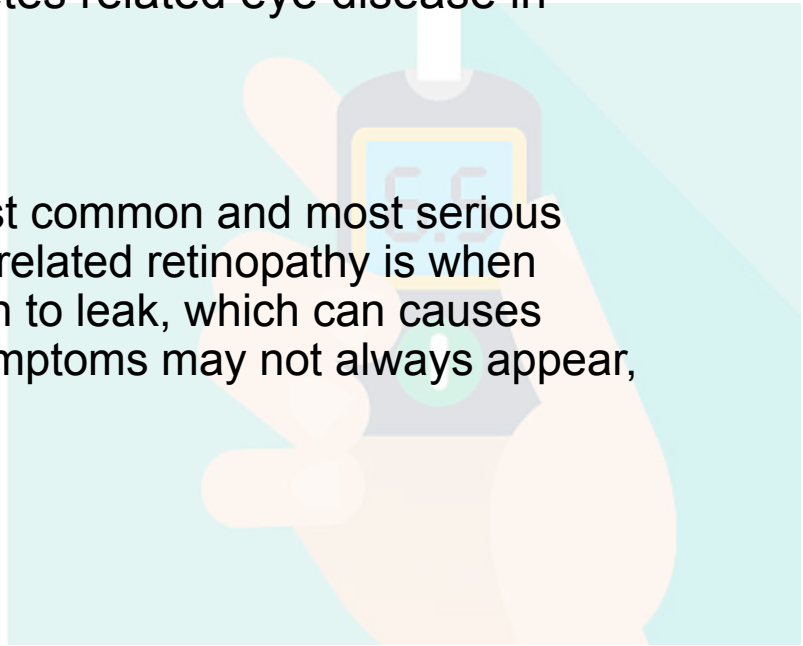
For most people with diabetes, there is a very clear relationship between blood glucose management, A1C results, and, more recently, glucose time in range and eye health. The more your blood glucose is in a safe range over time, you are less likely to develop any diabetes-related eye conditions.

If you have type 2 diabetes you need to have a dilated eye exam soon after your diabetes diagnosis. For many with type 2 diabetes, you could have been living with the disease for several years before your diagnosis, which means your eyes were at risk for damage without you or your physician even knowing it.

Your first exam should include a dilated eye exam.

COMMON DIABETES RELATED EYE DISEASES

Let’s take a look at the most common diabetes related eye disease in detail.



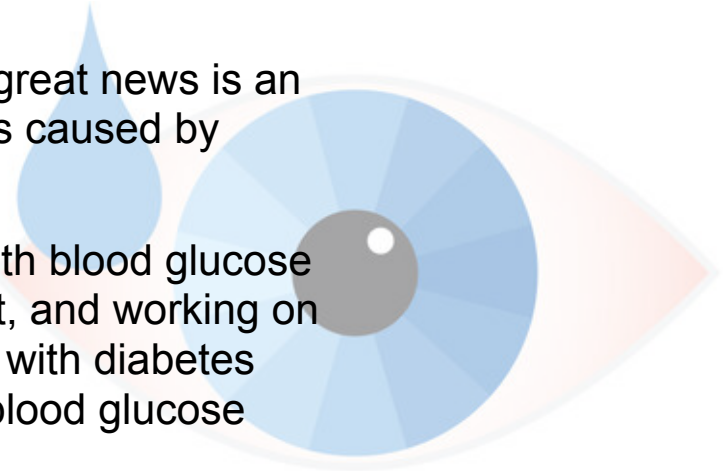
Diabetes-Related Retinopathy

Diabetes-related retinopathy is one of the most common and most serious diabetes-related eye complications. Diabetes-related retinopathy is when blood from the blood vessels in your eye begin to leak, which can causes problems in your eye and with your vision. Symptoms may not always appear, but common symptoms include:

- Floaters
- Blurred vision
- Distorted vision
- Impaired colors
- Empty areas in your vision
- Vision loss

COMMON DIABETES RELATED EYE DISEASES

Diabetes-Related Retinopathy continued…

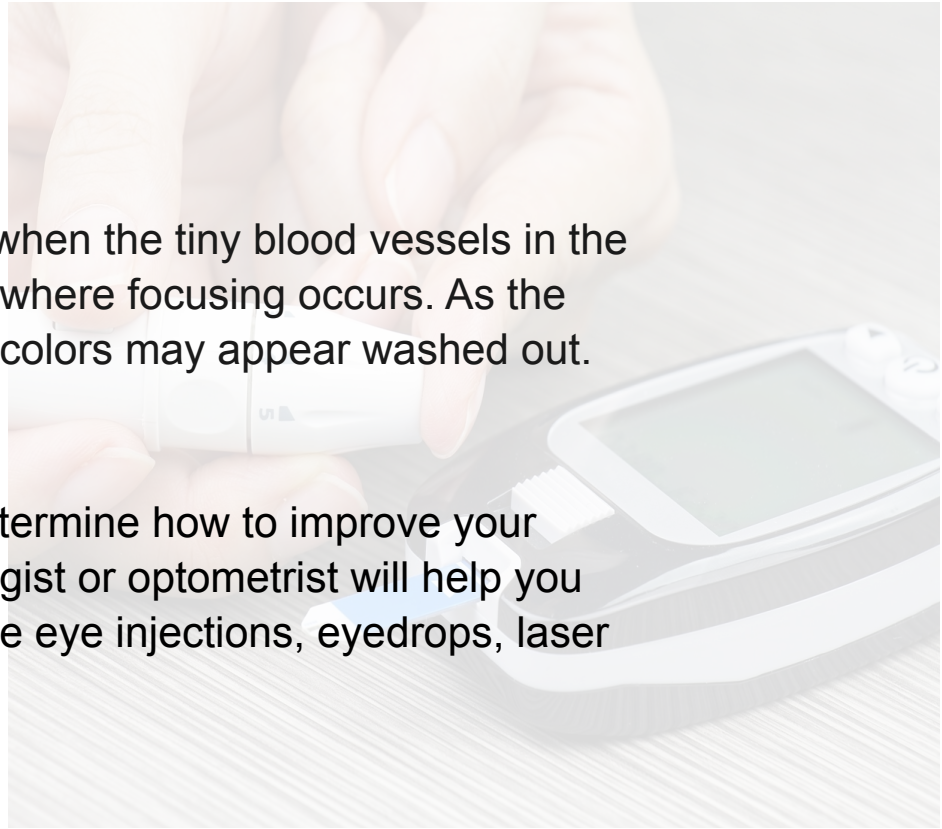


It's the leading cause of preventable vision loss. But the great news is an annual dilated eye exam could prevent 95% of vision loss caused by diabetes.

Many people can prevent diabetes-related retinopathy with blood glucose (management, maintaining an A1C of less than 7 percent, and working on your overall time in range goals). Although, some people with diabetes may develop diabetes-related retinopathy regardless of blood glucose management.

Fortunately, diabetes-related retinopathy is usually very treatable, especially if you can catch it in the earliest stages during your annual eye exam.

COMMON DIABETES RELATED EYE DISEASES



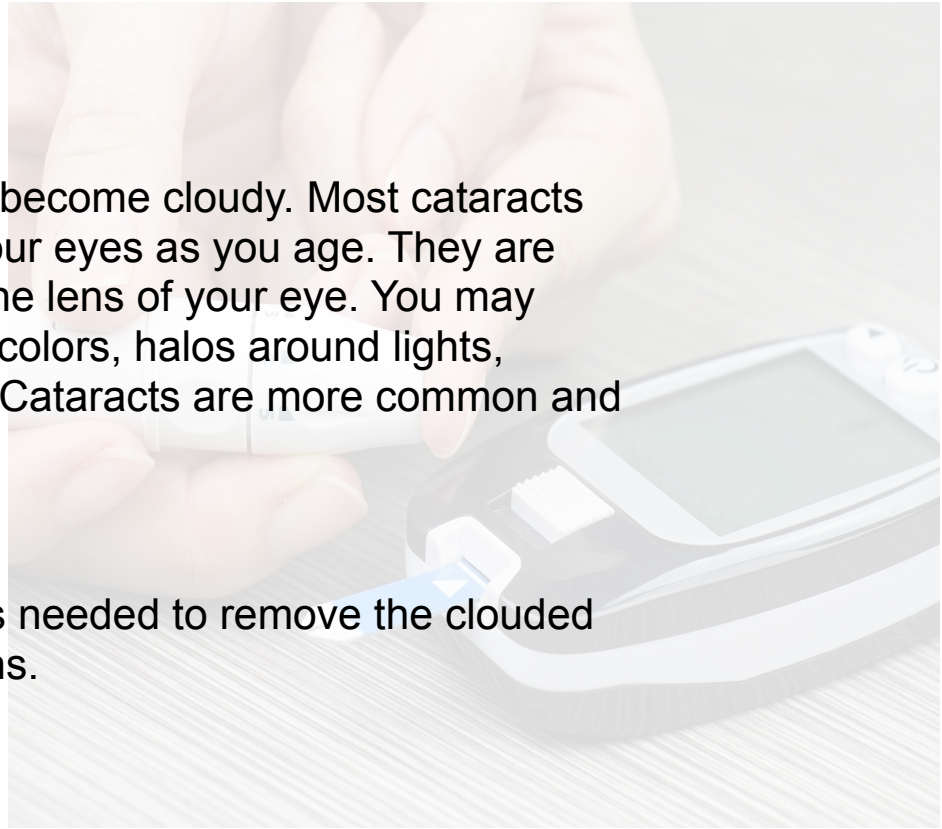
Diabetic-Macular Edema

Diabetes related macular edema occurs when the tiny blood vessels in the retina leak fluid into the macula, which is where focusing occurs. As the macula swells with fluid, vision blurs and colors may appear washed out.

Treatment

Your diabetes care team can help you determine how to improve your diabetes management. Your ophthalmologist or optometrist will help you identify treatment options that may include eye injections, eyedrops, laser treatment, or surgery.

COMMON DIABETES RELATED EYE DISEASES



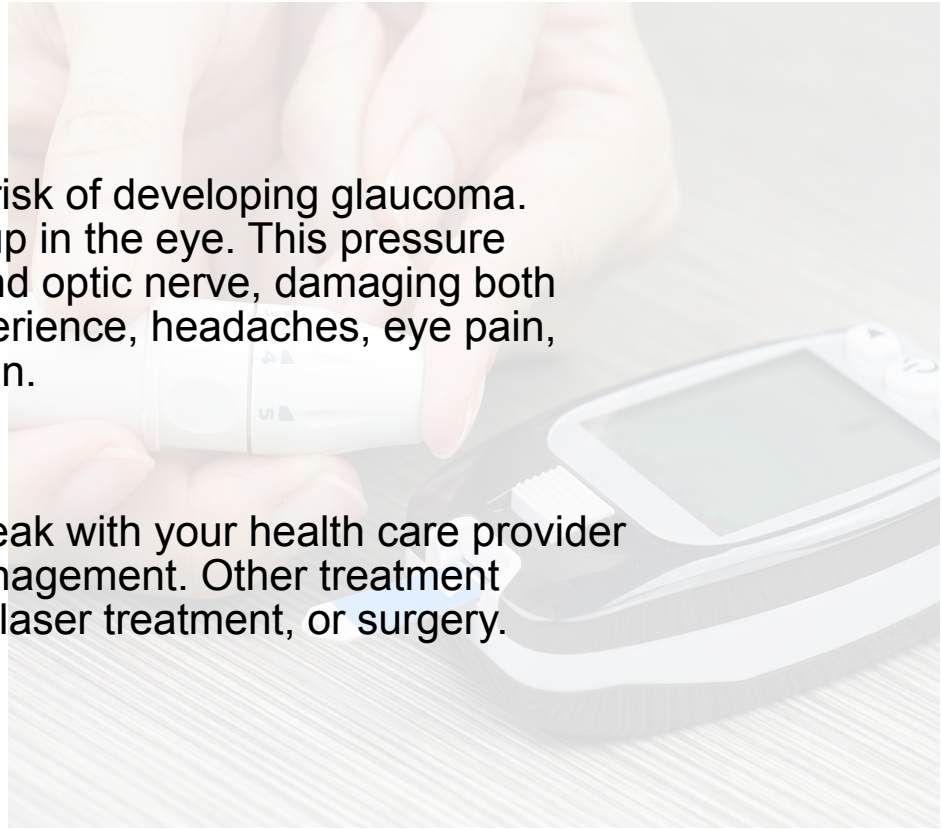
Cataracts

A cataract causes the lens in your eye to become cloudy. Most cataracts are associated with normal changes in your eyes as you age. They are caused by the breakdown of proteins in the lens of your eye. You may experience cloudy or blurry vision, faded colors, halos around lights, difficulty seeing at night or double vision. Cataracts are more common and occur earlier in people with diabetes.

Treatment

Cataract surgery by an ophthalmologist is needed to remove the clouded lens and replace it with a new artificial lens.

COMMON DIABETES RELATED EYE DISEASES



Glaucoma

People living with diabetes are at higher risk of developing glaucoma. Glaucoma occurs when pressure builds up in the eye. This pressure pinches the blood vessels to the retina and optic nerve, damaging both and resulting in vision loss. You may experience, headaches, eye pain, watery or red eyes, halos, or blurred vision.

Treatment

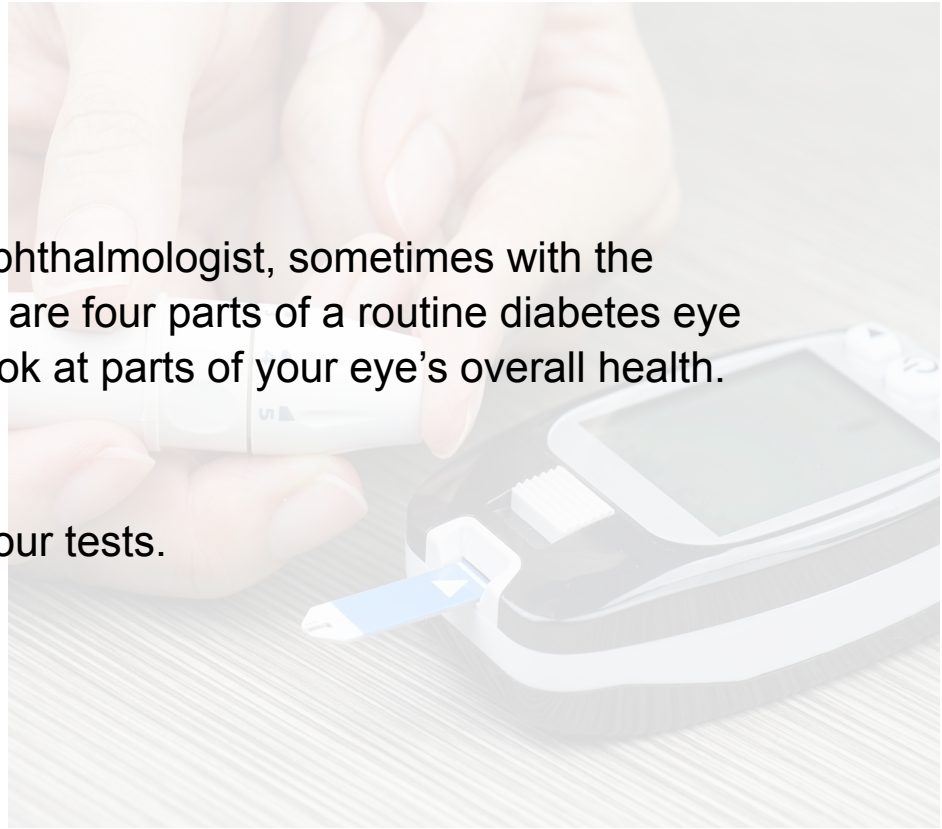
Your eye doctor may recommend you speak with your health care provider about ways to improve your diabetes management. Other treatment options include eye injections, eyedrops, laser treatment, or surgery.

COMMON DIABETES RELATED EYE DISEASES

Your annual dilated eye exam will look for signs of the five conditions we have been learning about:

- **Retinopathy:** Swelling and bleeding in the blood vessels of your eye's retina that can lead to vision loss
- **Macular edema:** Swelling and fluid build-up in the macula of your eye, often coincides with retinopathy, and can cause severe vision loss if left untreated
- **Cataracts:** Cloudiness in the lens of your eye that can cause vision loss
- **Glaucoma**: Increased fluid pressure in your eyes that if left untreated, can cause vision loss
- **Dry eye**: Blurred vision that improves with blinking, excessive watering to compensate for the dryness and, when severe, stinging and burning in your eyes

CONDITIONS AND COMPLICATIONS RELATED TO DIABETES



4 Eye Exams for People with Diabetes

Usually performed by an optometrist or ophthalmologist, sometimes with the assistance of a technician or nurse, there are four parts of a routine diabetes eye exam that use different technologies to look at parts of your eye's overall health.

Let's take a closer look at each of these four tests.

WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM

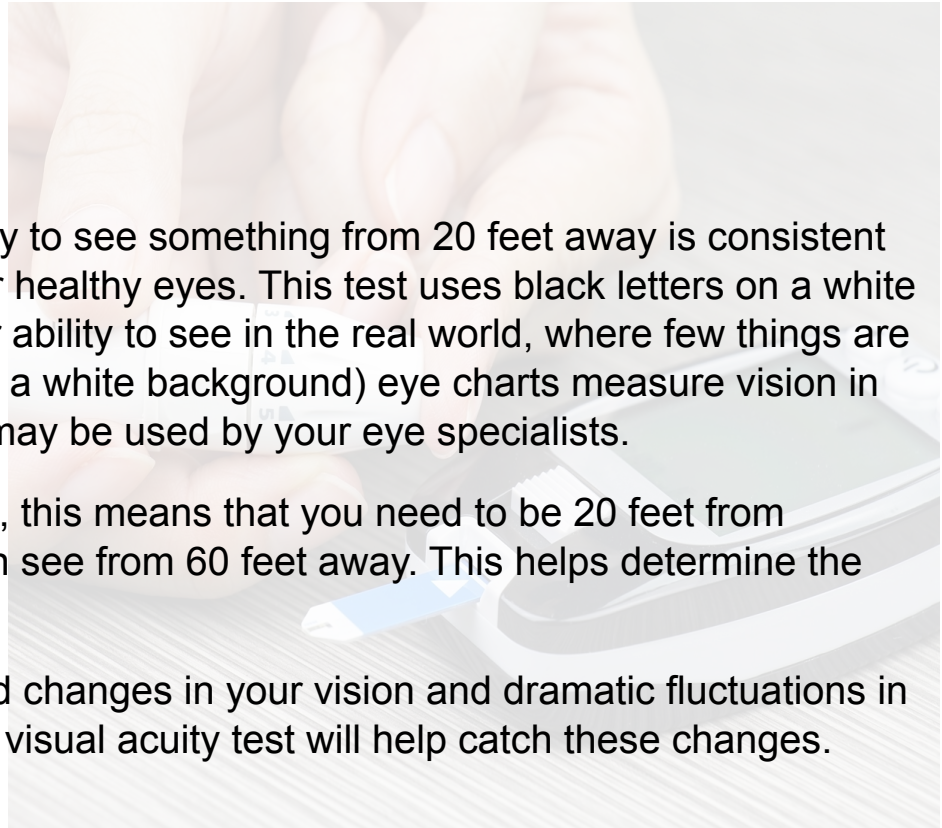
Visual Acuity Testing

Using an eye chart and other technology, this test is likely something you've had done many times before if you wear glasses or contacts. It will also determine your overall vision and whether you need glasses/contacts or an update to your current prescription.

This test assesses your long-distance vision, such as when you're driving, and your up-close vision, like when you're reading a book.

Using different approaches, you'll read letters and/or numbers at various distances to determine how well you can see with and without corrective lenses.

WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM



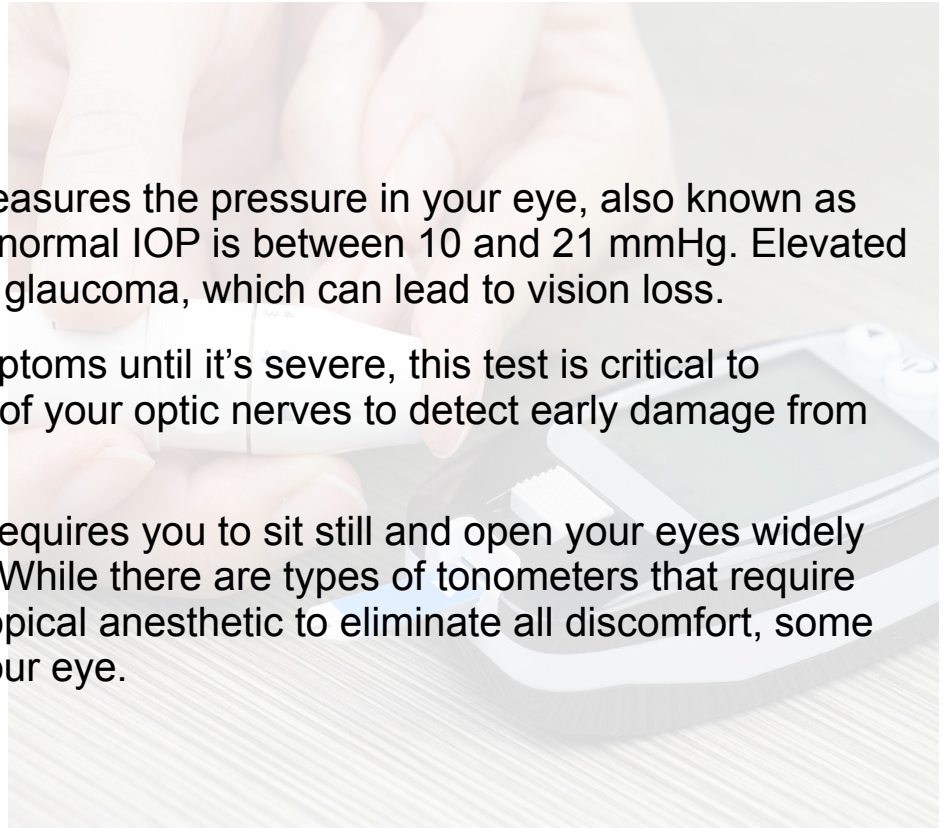
Visual Acuity Testing continued…

Normal vision is 20/20, which means your ability to see something from 20 feet away is consistent with people who have standard vision ability for healthy eyes. This test uses black letters on a white background and generally does not reflect your ability to see in the real world, where few things are black on white. Low contrast (greyish letters on a white background) eye charts measure vision in real world settings much more accurately and may be used by your eye specialists.

If your results come back at 20/60, for example, this means that you need to be 20 feet from something that someone with normal vision can see from 60 feet away. This helps determine the prescription for your glasses.

Diabetes can potentially lead to sudden or rapid changes in your vision and dramatic fluctuations in your eyeglass or contact lens prescription. The visual acuity test will help catch these changes.

WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM



Tonometry

Also referred to as the “puffer test”, measures the pressure in your eye, also known as intraocular pressure (IOP). Generally, normal IOP is between 10 and 21 mmHg. Elevated IOP could be a sign you've developed glaucoma, which can lead to vision loss.

Since glaucoma generally has no symptoms until it’s severe, this test is critical to catching it early, along with a 3D view of your optic nerves to detect early damage from eye pressure.

The test itself is painless, and simply requires you to sit still and open your eyes widely while your eye pressure is measured. While there are types of tonometers that require gentle contact with your eye using a topical anesthetic to eliminate all discomfort, some do not come into direct contact with your eye.

WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM

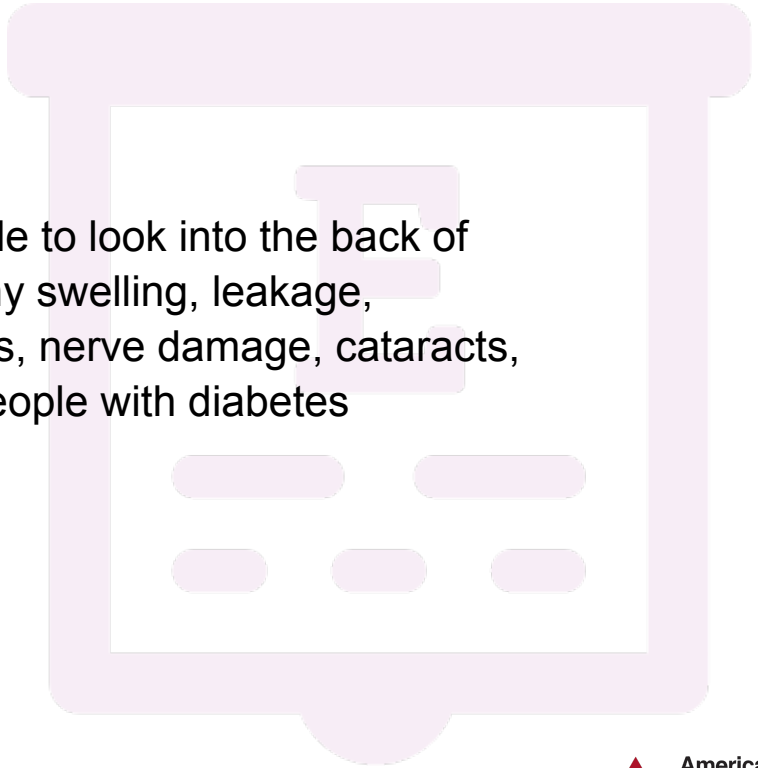
Dilated Eye Exam

This is the most important part of the eye exam for people with diabetes because it is the best way to catch any early signs of damage in your eyes, as well as grade the severity of any damage that has already occurred.

After applying eye drops that enlarge the pupils, giving the eye doctor a 3D view inside your eyes, you'll probably be asked to hang out with a magazine for 15 to 30 minutes while the drops cause your pupils (the dark circle in the center of your iris) to fully open.

WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM

Dilated Eye Exam continued….



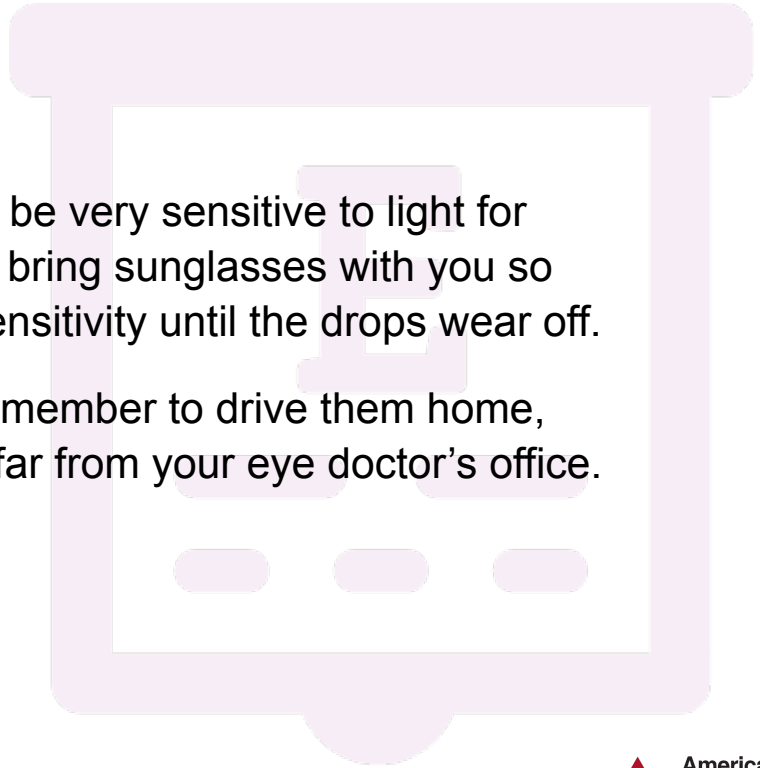
Dilating your eyes means your eye doctor will be able to look into the back of your eye using non-invasive technology to detect any swelling, leakage, bleeding blood vessels, abnormal new blood vessels, nerve damage, cataracts, and other eye diseases that are more common in people with diabetes

WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM

Dilated Eye Exam continued….

While dilated, your vision will be blurry and you will be very sensitive to light for about two to four hours after the exam. You should bring sunglasses with you so you can get around safely and with minimal light sensitivity until the drops wear off.

Some people may find they want a friend or family member to drive them home, especially if you already have limited vision or live far from your eye doctor's office.



WHAT TO EXPECT AT YOUR ANNUAL DILATED EYE EXAM?

Optical Coherence Tomography

Once your eyes are dilated your doctor may also use noninvasive imaging technology to scan the different layers of your retina and/or the health of your optic nerve with a specialized light (sort of an optical ultrasound). This is especially important for people suspected of diabetic macular edema or glaucoma.

This test is also very useful for detecting age-related macular degeneration, a totally different but common eye disease in older adults.

To prepare for this part of your diabetes eye exam, your optometrist may put dilating eye drops in each eye. By dilating your eyes prior to the exam, it will be easier to get higher quality scans of your retina.

Your annual dilated eye exam can feel stressful or tedious, but it is the best way to detect and prevent diabetes-related eye diseases from causing permanent vision loss.

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

For those living with or at-risk for diabetes, an annual comprehensive eye exam is a simple and noninvasive way to detect or delay eye disease and vision loss caused by diabetes. As part of a comprehensive eye exam, pupil dilation allows your eye doctor to see the entire retina.

Early detection, timely treatment, and appropriate follow-up care with an eye doctor can reduce a person's risk for severe vision loss from diabetes-related eye disease by 95 percent.

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

You May Have No Symptoms

Often diabetes-related retinopathy has no symptoms, which is why regular comprehensive eye exams are so important for early detection and treatment—before vision loss occurs. If you've noticed a change in your vision, don't wait until your next appointment—see your eye doctor right away and be prepared to share the following information:

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

- Any symptoms or changes in your eyesight that you experience (floaters, blurred vision, flashing light) and when they began.
- What your blood glucose levels are/were when symptoms occurred
- Any medical changes (new medications, etc.)
- Other information you think may be important.

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

Understand Your Risk Factors

When combined with high blood glucose, many other factors can increase your risk of vision problems, including:

- How long you've had diabetes
- Your diabetes management
- Tobacco use
- High blood pressure (hypertension)
- High cholesterol
- Pregnancy
- Belonging to a high-risk group (Hispanic or Latino, Black or African American, American Indian, Alaska Native, or Asian)

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

Know What To Expect at a Dilated Eye Exam

If you are nervous about a doctor getting close to your eyes, do not worry. The exam itself is straightforward and few find it uncomfortable. While exams may slightly vary from doctor to doctor, here's what you can generally expect:

First, your eye doctor will check whether there is a change in your eyeglass or contact lens prescription.

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

- Next, the eye doctor will place a few drops in your eyes (it may sting briefly) to dilate the pupils so they can examine the health of your retina (tissue at the back of the eye).
- 20 to 30 minutes later, your pupils will be fully dilated, and your vision will be blurry—don’t worry, this is normal. Using special lenses and lights, the doctor will be able to examine the retina in much greater detail.
- The effects of the drops may last anywhere from two to six hours, so it is recommended that you arrange for alternative transportation home. You are also likely to be more sensitive to light, so bring a pair of sunglasses to make your trip home more comfortable.

PREPARING FOR A VISIT TO YOUR EYE DOCTOR

To detect diabetes-related retinopathy, the doctor will examine the entire retina. Some areas of your retina provide very little useful vision, but they contain some of the smallest blood vessels in your body and are especially sensitive to damage from diabetes.

As part of any comprehensive exam, your eye doctor will check for cataracts (clouding of the lens in the eye) and glaucoma (high pressure in the eye), which are additional eye conditions that can occur in people with diabetes even if they have no signs of retina disease.

SCHEDULE A VISIT WITH YOUR EYE DOCTOR

Contact your eye doctor today to schedule your dilated eye exam. To learn about eye health and find an eye care provider near you, visit diabetes.org/eyehealth

Take care of your eyes with the support of your health care team including your eye doctor, diabetes care provider, and diabetes care and education specialist.

To find an eye care provider near you visit our Community Connections resource tool at diabetes.org/tools-support.

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