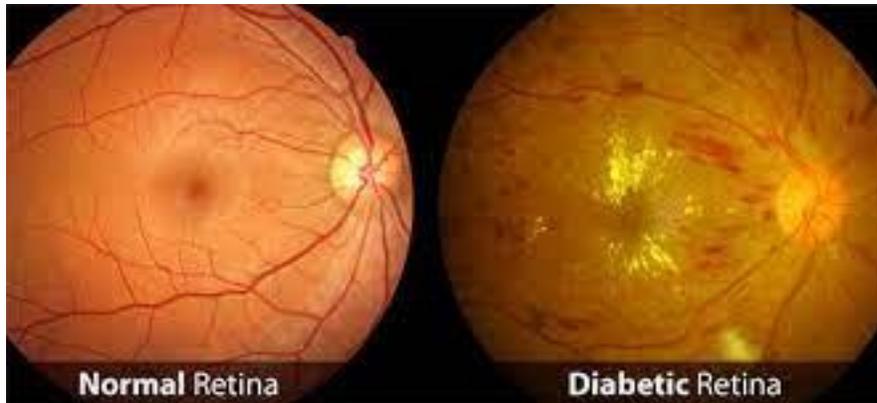


NOVEMBER IS DIABETIC EYE DISEASE AWARENESS MONTH



November is declared Diabetes Related Eye Disease month to educate the public on potential impact of vision loss and blindness from diabetes. In the United States diabetic eye disease is the leading cause of vision loss among working age adults. People with diabetes are at risk for many other diseases or complications that can affect health, wellness and quality of life. It is extremely important to control the blood sugar level in preventing many diabetic related complications and aim for a healthier lifestyle. Diabetics must be educated on the importance of maintaining eye health. One major complication of diabetes is diabetic eye disease. Diabetic eye disease includes diabetic retinopathy, glaucoma and cataract. Diabetics must have a dilated eye examination at least once a year. This examination will identify early diabetic eye changes before vision is lost (National Eye Institute).

DIABETIC RETINOPATHY - is the most common form of diabetic eye disease and affects about 28.5 per cent of Americans with diabetes age 40 and older. This is more than 7.7 million people and by the year 2050 the number is expected to reach 14.6 million. This eye condition can cause vision loss and blindness in people with diabetes. It affects blood vessels in the retina which is the light sensitive tissue at the back of the eye. People with any type of diabetes can develop diabetic retinopathy. This includes type 1, type 2 and gestational diabetes, the latter occurs during pregnancy. The longer you have diabetes the greater the risk for developing diabetic neuropathy. The risk is lowered with controlled blood sugar levels. Diabetics who are pregnant should discuss the need for a comprehensive dilated eye exam as soon as possible. Further discuss with your health care provider if you will require additional eye examinations during pregnancy.

Symptoms – usually early in the disease there are none. Some people may experience vision changes such as trouble reading or seeing or far away objects. These changes may come and go.

Later stages – blood vessels in the retina start to bleed into the vitreous (gel-like fluid that fills the eye). When this happens complaints of dark floating spots, or streaks that look like

cobwebs are made. These may resolve on their own but its important to seek treatment right away. If not treated further complications of vision loss and blindness may occur.

Causes – high blood sugar due to diabetes which over time damages the retina of the eye. Diabetes damages blood vessels in the body. The damage in the eye starts when blood sugar blocks the tiny blood vessels in the retina resulting in leaking of fluid or blood. The eyes compensate for those blocked blood vessels by growing new ones that don't work well and can leak or bleed. Hypertension or high cholesterol along with diabetes increases risk for diabetic retinopathy.

Diagnosis – made from dilated eye exam. The eye will have drops instilled to dilate the pupil, examine for diabetic retinopathy and other eye problems. When the doctor suspects severe diabetic retinopathy or diabetic macular edema (DME) a fluorescein angiogram may be ordered. This test allows visualization of blood vessels in the retina.

Prevention – managing your diabetes is the best way of lowering the risk for diabetic retinopathy. Maintain blood sugar levels in the healthy range by staying physically active, eating healthy and following your doctor's instructions on taking insulin or other diabetic medications. Hemoglobin A1C is a special lab test that shows the average blood sugar level over the past three month. This is needed as you work with your doctor to establish your goal.

Treatment – in the early stages of diabetic retinopathy the doctor may schedule follow up appointment s to keep track of your eye progress. Some may require comprehensive dilated eye examination every 2 to 4 month. In later stages treatment must be started right away especially if there are vision changes. It will not repair the damage to your vision but will prevent it from getting worse.

Injections –medicines anti-VEGF drugs can slow down or reverse diabetic retinopathy. Corticosteroids can also be used. Manage your diabetes, stay physically active, eat healthy and take your medicine as prescribed will decrease or prevent vision loss.

Laser treatments – reduces swelling in the retina, shrinks blood vessels and stop leakage. Eye surgery – if the retina is bleeding a lot or large amount of scar tissue present a vitrectomy is recommended. Vitrectomy – surgical procedure removes blood or other substances preventing light from properly focusing on the retina. Removes scar tissue that wrinkles, tears, or foreign object stuck in the eye after injury.

Other Eye Problems Associated with Diabetic Retinopathy

Diabetic Macular Edema (DME) – blood vessels in the retina leak fluid into the macula (part of the retina needed for sharp, central vision) resulting in blurred vision.

Neovascular Glaucoma – secondary glaucoma where the angle of the eye is closed by new blood vessels. The angle is between the iris (colored part of the eye) and cornea (clear-window front part of the eye). Difficult disease to treat. Laser surgery to reduce abnormal blood vessels on the iris and retina. Success with drainage implants from recent studies are noted (glaucoma.org)

Retinal Detachment - occurs when the retina lifts away from the back of the eye. Sudden flashing lights, shadowy peripheral vision, gray curtain covering part of field vision. Emergency situation must be seen immediately by an ophthalmologist.

GLAUCOMA – relationship exists between diabetes and open-angle glaucoma (the most common type of glaucoma). People with diabetes are twice as likely to develop glaucoma as non-diabetics. Some current research is questioning this statement. The possibility of someone with open-angle glaucoma developing diabetes is higher than that of someone without the eye disease. Glaucoma can cause damage to the optic nerve. Damage to this nerve can cause permanent vision loss and may even result in blindness (healthline.com)

CATARACT – when someone sees light passes through clear lens. The lens is behind the iris which is the colored part of the eye. Cataract develops when the lens in the eye changes from clear to foggy. Cataract is a cloudy area in the lens of the eye. Common with age. Usually cataract develops in both eyes but one may be worse than the other

Causes: Age, eye injury and after eye surgery for glaucoma

Early Symptoms: None

Risk Factors: Diabetes, excess alcohol, family history,

Later Symptoms: Blurry vision, colors that seem faded sensitivity to light, halo around lights, poor vision at night and double vision which may decrease as the cataract gets larger. Frequent changes in glasses prescription

Prevention: wear sunglasses and hat with a brim to block the sun, quit smoking, eat healthy plenty fruits, vegetables especially dark leafy greens like spinach, kale and collard greens

Diagnosis: Dilated eye exam

Treatment: Surgery (only way to get rid of it). Implement small changes at home by using brighter lights, magnifying glasses, antiglare sunglasses, new glasses or contacts if surgery is not needed right away (national eye institute).

Diabetics are either not able to utilize the body's insulin correctly or unable to make any or enough insulin. Some diabetics experience both problems. Insulin is responsible for transporting sugar from the blood into the cells. Food containing carbohydrates raises blood sugar level more so in diabetics. Once carbohydrate is ingested it is broken down and absorbed in the blood as sugar. Maintaining normal blood glucose level is not easy it requires constant watch on all food consumed. Read all food labels and be surprised at how many has sugar added. Nutritional labels with carbohydrates includes sugars, complex carbohydrates and fiber. Desserts, yogurts and salad dressings can have added ingredients to enhance the sweetness. Fruits and vegetables contain natural sugar and diabetics should be aware of the recommended normal serving size. Many processed foods and desserts have some type of sugar added to them. Many food labels will not list "sugar" as the key ingredient instead may see the following:

- Dextrose
- Fructose
- High-fructose corn syrup

- Lactose
- Malt syrup
- Sucrose
- White granulated sugar
- Honey
- Agave nectar
- Glucose
- Maltodextrin

These sugar sources are carbohydrates, will raise your blood sugar and can be found in many food products. Some of these products are found in cookies, sweetened cereals, marinara sauce, chips, flavored oatmeals, cakes, yogurt, candy, ice cream, premade smoothies and other desserts and sweets. These simple sugars are digested readily and can increase blood sugar quickly. Complex carbohydrates like whole grains and starchy vegetables increase blood sugar at a slower pace. Natural sweeteners (nectars, sweet juices, monk fruit, honey, molasses, agave syrup, and maple syrup) impact blood sugar like other sugar sweeteners except for stevia. Stevia can be added to desserts made at home. Some soft drinks have started to add stevia to their products. Stevia is an extract that comes from the plant *Stevia rebaudiana* (healthline).

Knowing the difference between sugar containing foods and those with less sugar can help in controlling diabetes.

Sugar Free – one serving contains less than 0.5 grams of sugar, both natural and added (also free of sugar sugarless, no sugar, zero sugar, or trivial source of sugar).

Reduced Sugar – at least 25% less sugar than the regular version of the product (also less sugar, low in sugar or lower sugar).

No Added Sugar – no sugar or ingredient containing sugar was added during processing or packaging (also without added sugar or no sugar added) (heart.org)

In addition, there are numerous eye vitamins available so discuss with your health care provider which is appropriate for you.

In conclusion your vision is extremely important control your blood pressure, maintain normal cholesterol and blood sugar. Remember it is essential to find,treat eye problems early to protect, improve and preserve your vision.