

SECTION 7: EYE CARE

Concern	Care/Test	Frequency
Eye Care	◆ Dilated eye exam by an ophthalmologist or optometrist.....	<i>Type 1:</i> If age \geq 10 yrs, within 3 – 5 years of onset, then annually <i>Type 2:</i> At diagnosis, then annually; two exceptions exist

Main topics included in this section:

- ◆ Annual Dilated Eye Exams
- ◆ Referral to an Ophthalmologist or Optometrist and Coordination of Care
- ◆ Anti-Vascular Endothelial Growth Factor (anti-VEGF) Treatment
- ◆ Essential Education
- ◆ Eye Care – Question and Answer
- ◆ References

Tools included in this section:

- ◆ Dilated Retinal Eye Exam Communication Form (1 page)
- ◆ Eye DVD Order Form (1 page)

Diabetes is the leading cause of new cases of blindness among adults ages 20-74. Studies show that early detection and proper treatment reduces the risk of diabetic retinopathy and blindness by 50-60%. Dilated eye exams are therefore essential for early detection of blinding diabetic eye disease. In addition, proper glycemic control can reduce the risk of progression of retinopathy by 34-76%. For each two unit decrease in A1c (e.g., A1c of 8.5% to 6.5%) there is a 50-75% reduction in complications. Retinal screening exams and early treatment can result in increased years of sight and also assist with cost savings. Diabetic retinopathy is preventable; and, optimal glycemic and blood pressure control can reduce its severity.

Annual Dilated Eye Exams

People with Type 1 diabetes should have an initial dilated eye exam within 3-5 years of onset of diabetes or at ten years of age, whichever occurs later. Conduct subsequent exams every year thereafter. People with Type 2 diabetes should receive a dilated eye exam at diagnosis and then every year thereafter.

Two exceptions to the annual dilated eye exam may be made at the discretion of the ophthalmologist or optometrist:

- 1) Annual screening is generally not indicated for people with Type 1 diabetes within the first 3-5 years of diagnosis or before the age of ten years,
- 2) People with Type 2 diabetes may have a dilated exam ***on alternate years*** if ***all*** of the following requirements are met:
 - Recent and ongoing A1c levels are within one percent of normal for a given lab (this implies that A1c levels were measured within the last six months),
 - Consistent blood pressure < 130/80 mmHg,
 - A dilated eye exam within the last year, revealing no retinopathy.

Diabetic retinopathy may accelerate with rapid improvement in A1c levels, especially in pregnancy. A baseline dilated comprehensive eye exam is necessary ***before*** conception. Women should be counseled on the risk of development and/or progression of retinopathy. This risk is present up to one year following childbirth.

An ophthalmologist or optometrist fully trained in recognizing diabetic retinopathy should provide these eye exams. Abnormal findings should result in either prompt treatment or timely referral for the management of diabetic retinopathy.

Referral to an Ophthalmologist or Optometrist and Coordination of Care

It is necessary that the ophthalmologist or optometrist communicate the results and recommendations of each eye exam to the primary care provider, in addition to the person with diabetes. It is beneficial if the primary care provider can provide the eye care specialist with the person's current A1c and blood pressure values. The tool titled "Dilated Retinal Eye Exam Communication Form" at the end of this section is a resource that allows eye care specialists and primary care providers to communicate eye exam findings.

Anti-Vascular Endothelial Growth Factor (anti-VEGF) Treatment

Retinopathy does not require specific eye treatment until it results in macular edema, the growth of blood vessels in the inner lining of the eye (the retina) or bleeding into the central cavity of the eye (vitreous hemorrhage). The most common treatment for macular edema involves the limited use of a laser. Newer treatments consist of injections of tiny amounts of various drugs (including the anti-VEGF drugs) into the inner cavity of the eye. The treatment for blood vessels affected by diabetes has been and largely remains extensive laser applications to the inner lining of the eye. The initial treatment for hemorrhage into the vitreous is to first wait for spontaneous clearing. If this does not begin to occur within a month or so, then surgical removal of the vitreous gel is considered.

Application of laser light to the retina (the inner lining of the eye) is used in limited amounts to reduce or eliminate the macular edema; laser light is used in extensive amounts to reduce or eliminate the blood vessels (called neovascularization). A surgical procedure called vitrectomy is used to remove blood from the inner cavity of the eye when it does not spontaneously dissolve. It is also used to treat more severe complications, such as retinal detachment, caused by the affected blood vessels. The newest and still largely experimental treatments consist of injecting drugs such as a steroid or anti-VEGF agents into the inner cavity of the eye. These are used as a supplement but do not replace laser treatment or vitrectomy.

Essential Education

All people with diabetes should be informed of the risks of eye disease. Educational strategies should take into consideration literacy level/skill and special educational or cultural needs, while respecting the individual's willingness to change behavior. Education may include, but is not limited to:

- Awareness that an annual dilated eye exam is necessary to detect eye problems early and to preserve vision.
- Understanding an eye (vision) test/screening is not an alternative to the annual dilated eye exam. People with diabetes must know the difference between these two tests.
- Explaining the importance of reporting vision-threatening symptoms immediately (e.g., floaters, shadows, or persistent blurred vision).
- Understanding retinopathy often shows no symptoms until the fairly advanced stages of disease.
- Knowing early detection and timely, appropriate treatment significantly reduces the risk of vision loss.
- Reducing the risk of onset or progression of diabetic retinopathy by 35-75% through diligent glycemic control.
- Other aspects of diabetes management affecting retinopathy, such as poor glycemic control, hypertension, and elevated lipids.
- Sharing information about the availability of resources and support for the visually impaired with people who have low vision.
- Stressing prevention strategies, such as improving glycemic control and obtaining annual retinal exams.

An educational DVD titled “Protect Your Vision: The Dilated Eye Exam,” was created by the Wisconsin Diabetes Prevention and Control Program, the Wisconsin Lions Foundation, and other partners. This seven-minute DVD (English and Spanish are available on the same DVD) provides a simple educational message to persons with diabetes and can be played in waiting rooms or exam rooms as persons are waiting to be seen by providers. This DVD can be viewed on the Wisconsin Lions Foundation website: <http://www.wlf.info/>. Order DVDs through the Wisconsin Lions Foundation, using the order form titled “Eye DVD Order Form” at the end of this section (page 7-7). A second DVD titled “Diabetic Retinopathy: A Potential Consequence of Uncontrolled Diabetes” is also available using this order form.

Eye Care – Question and Answer

Q: Are non-dilated fundus photo exams sufficient for screening retinopathy?

A: Fundus photos of any type are not a substitute for a complete dilated eye exam. For areas with limited access to qualified experts, fundus photos are better than doing nothing to screen for retinopathy. The gold standard for people with diabetes is a yearly dilated eye exam. Non-dilated fundus photography has found a niche in eye care of some people with diabetes. Its accuracy has improved due to better photographic technology and some recent studies show that these exams may be at least as reliable as a look by a general examiner.

Q: Does retinopathy screening alone provide adequate eye care for people with diabetes?

A: Retinopathy screening is just one component of a comprehensive eye exam, which involves evaluation of 12 components of the eye and of the appropriate glasses or contacts.

References

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DILATED RETINAL EYE EXAM COMMUNICATION FORM

This form is to document dilated eye exam results. Place form directly in the person's medical record.

I, _____ give consent to release this medical information.

Step #1: Patient

Patient: Fill out your name, date of birth, phone number, and the names of your Primary Care Clinician and Eye Care Specialist. After your yearly dilated eye exam, please make sure that this form or a copy of this form is returned to your Primary Care Clinician.

Name _____	Date of Birth _____	Phone _____
Last A1c: _____ %	Date: _____	BP: _____ / _____ Date: _____

Primary Care Clinician	Eye Care Specialist
Name _____	Name _____
Clinic/Office _____	Clinic/Office _____
Address _____	Address _____
_____	_____
Phone _____	Phone _____
Fax _____	Fax _____

Step #2: Eye Care Specialist

Eye Care Specialist: Please complete the information below and return this form or a copy of this form to the patient's Primary Care Clinician listed above.

Eye Exam Date: _____ Were eyes dilated for this exam? Yes No

Dear Primary Care Clinician: I have performed an eye exam on your patient. A brief report is provided below.

Retinal Examination Findings:

- No diabetic retinopathy
- Diabetic retinopathy requiring no treatment
- Diabetic retinopathy requiring treatment
- Other eye disease
- Report sent to patient's Primary Care Clinician

Follow-up Eye Exam Recommendations:

- 3 Months
- 6 Months
- 1 Year
- Other: _____

Eye Care Specialist's Signature _____

Step #3: Primary Care Clinician

Primary Care Clinician: Please place this Dilated Retinal Eye Exam Information Form in the patient's medical record.

EYE DVD ORDER FORM

How many DVD(s) would you like to order (indicate number in space) . . .

_____ *Protect Your Vision: the Dilated Eye Exam*

_____ *Diabetic Retinopathy: A Potential Consequence of Uncontrolled Diabetes*

Requesting Company/Organization Information

Contact Name: _____ **Date of Request:** _____

Company/Organization Requesting: _____

Contact Email: _____ **Contact Phone:** (____) _____

Shipping Address: _____

City: _____ **State:** _____ **Zip:** _____

Share with us how you plan to use the DVD (check all that apply) . . .

Waiting Rooms Exam Rooms Support Groups Community Presentations

Health Fairs Lunch and Learns Home Health Visits Professional Education

Medical Library Resource

Other: _____

Help us evaluate . . .

Protect Your Vision: the Dilated Eye Exam

Overall Quality of DVD: Poor Average Above Average Excellent

Clarity of Information: Poor Average Above Average Excellent

Diabetic Retinopathy: A Potential Consequence of Uncontrolled Diabetes

Overall Quality of DVD: Poor Average Above Average Excellent

Clarity of Information: Poor Average Above Average Excellent

Contribute to the cause . . .

The cost for *each* DVD, including production, packaging, and shipping, is approximately \$4. If your company/organization is able to offset even a portion of this cost, it would be greatly appreciated. This *voluntary donation* will be used in Lions' future community diabetes education projects. If you would like to make a voluntary donation, please make check payable to: **Wisconsin Lions Foundation Diabetes Education Fund.**

Send this order form (and check if making a donation) to:

Wisconsin Lions Foundation
3834 County Road A
Rosholt, WI 54473

Email: wlf@wlf.info
Fax: (715) 677-4527
Phone: (877) 463-6953 (toll free)

