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RETINAVUE, P.C. PATIENT MANAGEMENT GUIDE

After Diagnosis with the Welch Allyn® RetinaVue® Care Delivery Model

The Welch Allyn® RetinaVue® care delivery model is designed for healthcare providers who want to improve management of patients with diabetes. It enables providers to easily perform diabetic retinal exams (DRE) in primary care settings. The RetinaVue care delivery model includes a team of state-licensed, board-certified ophthalmologists (RetinaVue, P.C.) who analyze images taken during the diabetic retinal exam.

Although the RetinaVue care delivery model primarily focuses on diabetic retinopathy, RetinaVue, P.C. physicians may also indicate signs of other retinal diseases, most commonly macular degeneration and glaucoma. Each different disease state has associated recommendations for patient referral and follow up. It is important to develop a protocol to support patient flow after diagnosis.*

DIABETIC RETINOPATHY*

Diagnosis	RetinaVue, P.C. Recommended Management
No Diabetic Retinopathy	Follow-up photographs in 12 months.
NPDR Mild/Minimal	Follow-up photographs in 6-12 months for mild diabetic eye disease.
NPDR Mild/Minimal with CSME	Refer to an ophthalmologist for evaluation of mild diabetic retinopathy with clinically significant macular edema.
NPDR Moderate	Follow-up photographs in 6 months for moderate diabetic eye disease.
NPDR Moderate with CSME	Refer to an ophthalmologist for evaluation of moderate diabetic eye disease with clinically significant macular edema.
NPDR Severe	Refer to an ophthalmologist for evaluation of evidence of severe diabetic eye disease.
NPDR Severe with CSME	Refer to an ophthalmologist for evaluation of evidence of severe diabetic eye disease and clinically significant macular edema.
PDR	Refer to an ophthalmologist for evaluation of active or previously treated proliferative diabetic retinopathy.
PDR with CSME	Refer to an ophthalmologist for evaluation of active or previously treated proliferative diabetic eye disease with CSME.

Patients living with diabetes with no diabetic retinopathy (DR) should receive follow-up images each year.[1] Once patients are diagnosed with Mild/Minimal Non-Proliferative Diabetic Retinopathy (NPDR), they should be watched more closely. These patients can continue to receive the DR exam in primary care, though they may require more frequent imaging.

Once patients progress to Moderate Non-Proliferative DR, they should have a retinal image taken every 6-12 months.[2] Based on the provider's discretion, they may want to refer these patients to an ophthalmologist for evaluation. Patients with Severe Non-Proliferative DR or Proliferative DR are at risk for blindness and should be referred to an ophthalmologist for immediate evaluation.[2]

Clinically Significant Macular Edema (CSME) can occur at any level of DR and result in blindness. Patients with CSME should be referred to an ophthalmologist for immediate evaluation.[2]

AGE-RELATED MACULAR DEGENERATION*

Diagnosis	RetinaVue, P.C. Recommended Management
AMD Grade 1, Dry	Refer to an ophthalmologist if this is a new diagnosis of macular degeneration. Follow-up photographs in 6 months.
AMD Grade 2, Drusen, Degenerative	Refer to an ophthalmologist if this is a new diagnosis of macular degeneration. Follow-up photographs in 6 months.
AMD Grade 3, Degeneration, Retinal, Secondary Pigmentary	Refer to an ophthalmologist for evaluation of macular degeneration.
AMD Grade 4, Exudative	Refer to an ophthalmologist for evaluation of exudative macular degeneration.
AMD Grade 4, Chorioretinal Scar, Posterior Pole	Refer to an ophthalmologist for evaluation of exudative macular degeneration.

Age-related macular degeneration (AMD) can cause vision loss in individuals over age 50 and results in damage to the macula, which is responsible for central and sharp vision.[3] A small percentage of patients may have findings of AMD in their retinal exam.

Patients with Grade 1 or Grade 2 AMD should be referred to an ophthalmologist for evaluation at their initial diagnosis.[4] These patients have a low risk of progressing to advanced stages of AMD and may be managed in primary care with retinal images screened every six months at the discretion of the provider. Patients with more advanced levels of AMD (Grade 3 or 4) should be referred to and managed by an ophthalmologist.[4]

GLAUCOMA*

Diagnosis	RetinaVue, P.C. Recommended Management
Glaucoma: Ocular Hypertension	Refer to an ophthalmologist for evaluation of possible glaucoma.
Glaucoma: Optic Nerve Cupping	Refer to an ophthalmologist for evaluation of possible glaucoma.

Glaucoma occurs when damage to the optic nerve causes vision loss and is often associated with elevated pressure within the eye.[5] A small percentage of patients may have findings suggestive of glaucoma on retinal examination. Typically, eye pressure (tonometry) and visual field testing are required along with retinal images to diagnose glaucoma.

Patients with findings suggestive of glaucoma should be referred to an ophthalmologist for evaluation unless they are already receiving treatment for this disease.[6]

Up to 80% of individuals with diabetes will eventually develop some stage of diabetic retinopathy.[7]

UNREADABLE IMAGES

It may not be possible to capture readable images of the eyes of all patients. Image quality often degrades in patients with eye disease, so unreadable images may be suggestive of further problems. For these patients, you may choose to attempt the capture of retinal images using chemical pupil dilation or refer to an ophthalmologist for a dilated eye examination.

Learn more:

Diabetic Retinopathy:

https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/diabetic-retinopathy

Age-Related Macular Degeneration:

https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/age-related-macular-degeneration

Glaucoma:

https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/glaucoma

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*Categories of diagnosis based on the International Clinical Diabetic Retinopathy (ICDR) scale.

[1] Solomon et al. Diabetic retinopathy: A position statement by the American Diabetes Association. Diabetes Care. 2017 Mar; 40③: 412-418.

[2] Diabetic retinopathy (DR): Management and referral. Community Eye Health. 2015; 28(92):70-71.

[3] National Eye Institute. Age-related macular degeneration. https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/age-related-macular-degeneration. Accessed November 11, 2020.

[4] American Academy of Ophthalmology Retina/Vitreous Panel. Preferred Practice Pattern Guidelines. Age-Related Macular Degeneration. San Francisco, CA: American Academy of Ophthalmology; 2019. Available at: www.aao.org/ppp.

[5] National Eye Institute Glaucoma. https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/glaucoma. Accessed November 11, 2020.

[6] American Academy of Ophthalmology Glaucoma Panel. Preferred Practice Pattern Guidelines. Primary Open-Angle Glaucoma. San Francisco, CA: American Academy of Ophthalmology; 2015. Available at: www.aao.org/ppp.

[7] Duration of diabetes is a major risk factor associated with the development of diabetic retinopathy. After five years, approximately 25% of type 1 patients will have retinopathy, increasing to 80% after 15 years. For type 2 patients, the risk of developing retinopathy is 84% and 53% after 19 years for those taking or not taking insulin, respectively. Diabetic Retinopathy Preferred Practice Pattern® from the American Academy of Ophthalmology, http://dx.doi.org/10.1016/j. ophtha.2019.09.025, ISSN 0161-6420/19. Accessed July 29, 2020.