



## Diabetic Retinopathy (Initial and Follow-up Evaluation)

**(Ratings:** A: Most important, B: Moderately important, C: Relevant but not critical

**Strength of Evidence:** I: Strong, II: Substantial but lacks some of I, III: consensus of expert opinion in absence of evidence for I & II)

### Initial Exam History (Key elements)

- Duration of diabetes **(A:I)**
- Past glycemic control (hemoglobin A1c) **(A:I)**
- Medications **(A:III)**
- Systemic history (e.g., obesity **(A:III)**, renal disease **(A:II)**, systemic hypertension **(A:I)**, serum lipid levels **(A:II)**, pregnancy **(A:I)**)
- Ocular history **(A:III)**

### Initial Physical Exam (Key elements)

- Visual acuity **(A:I)**
- Measurement of IOP **(A:III)**
- Gonioscopy when indicated (for neovascularization of the iris or increased IOP) **(A:III)**
- Slit-lamp biomicroscopy **(A:III)**
- Dilated funduscopy including stereoscopic examination of the posterior pole **(A:I)**
- Examination of the peripheral retina and vitreous, best performed with indirect ophthalmoscopy or with slit-lamp biomicroscopy, combined with a contact lens **(A:III)**

### Diagnosis

- Classify both eyes as to category and severity of diabetic retinopathy, with presence/absence of CSME. **(A:III)** Each category has an inherent risk for progression.

### Follow-up History

- Visual symptoms **(A:III)**
- Systemic status (e.g., pregnancy, blood pressure, serum cholesterol, renal status) **(A:III)**
- Glycemic status (hemoglobin A1c) **(A:I)**

### Follow-up Physical Exam

- Visual acuity **(A:I)**
- Measurement of IOP **(A:III)**
- Slit-lamp biomicroscopy with iris examination **(A:II)**
- Gonioscopy (if neovascularization is suspected or present or if intraocular pressure is increased) **(A:II)**

- Stereo examination of the posterior pole after dilation of the pupils **(A:I)**
- Examination of the peripheral retina and vitreous when indicated **(A:II)**

## Ancillary Tests

- Fundus photography is seldom of value in cases of minimal diabetic retinopathy or when diabetic retinopathy is unchanged from the previous photographic appearance. **(A:III)**
- Fundus photography may be useful for documenting significant progression of disease and response to treatment. **(B:III)**
- Fluorescein angiography is used as a guide for treating CSME **(A:I)** and as a means of evaluating the cause(s) of unexplained decreased visual acuity. **(A:III)** Angiography can identify macular capillary nonperfusion **(A:II)** or sources of capillary leakage resulting in macular edema as possible explanations for visual loss.
- Fluorescein angiography is not routinely indicated as part of the examination of patients with diabetes. **(A:III)**
- Fluorescein angiography is not needed to diagnose CSME or PDR, both of which are diagnosed by means of the clinical exam.

## Patient Education

- Discuss results of exam and implications. **(A:II)**
- Encourage patients with diabetes but without diabetic retinopathy to have annual dilated eye exams. **(A:II)**
- Inform patients that effective treatment for diabetic retinopathy depends on timely intervention, despite good vision and no ocular symptoms. **(A:II)**
- Educate patients about the importance of maintaining near-normal glucose levels and near-normal blood pressure and lowering serum lipid levels. **(A:III)**
- Communicate with the attending physician, e.g., family physician, internist, or endocrinologist, regarding eye findings. **(A:III)**
- Provide patients whose conditions fail to respond to surgery and for whom treatment is unavailable with proper professional support and offer referral for counseling, rehabilitative, or social services as appropriate. **(A:III)**
- Refer patients with reduced visual function for vision rehabilitation (see [www.aao.org/smartsight](http://www.aao.org/smartsight)) and social services **(A:III)**

\* Adapted from the American Academy of Ophthalmology Summary Benchmarks, November 2010 ([www.aao.org](http://www.aao.org))