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 funduscropy 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 or 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) and social services (A:III)

* Adapted from the American Academy of Ophthalmology Summary Benchmarks, November 2010 (www.aao.org)