neither helpful nor harmful in the management of DR, and so no recommended changes in medically administered aspirin therapy are indicated in the setting of diabetic retinal disease.

Early Detection of Diabetic Retinopathy

Diabetic retinopathy may be asymptomatic for years, even at an advanced stage, so screening, using new technologies such as telemedicine, is essential to identify, monitor, and guide the treatment of disease. When visual complications occur, treatment preserves visual function and is believed to yield a substantial cost savings when compared with the direct costs for individuals disabled by vision loss (see Socioeconomic Considerations section). According to the National Committee for Quality Assurance's Health Plan Employers Data Information Set System, national monitoring of quality data has shown a slow but definite trend toward improving rates of screening examinations.[233] Still, screening rates remain lower than ideal in spite of evidence supporting the effectiveness of treatment. Physicians who care for patients with diabetes, and patients themselves, need to be educated about indications for ophthalmologic referral. (See Table 5.)

TABLE 5 INITIAL MANAGEMENT RECOMMENDATIONS FOR PATIENTS WITH DIABETES

Severity of Retinopathy	Presence of Macular Edema	Follow-up (Months)	Panretinal Photocoagulation (Scatter) Laser Surgery	Focal and/or Grid Laser Surgery*	Intravitreal Anti-VEGF Therapy
No apparent retinopathy	No	12	No	No	No
Mild NPDR	No	12	No	No	No
	NCI-DME	3–6	No	Sometimes	No
	CI-DME†	1*	No	Rarely	Usually
Moderate NPDR	No	6–12‡	No	No	No
	NCI-DME	3–6	No	Sometimes	Rarely
	CI-DME†	1*	No	Rarely	Usually
Severe NPDR	No	3–4	Sometimes	No	Sometimes
	NCI-DME	2–4	Sometimes	Sometimes	Sometimes
	CI-DME†	1*	Sometimes	Rarely	Usually
Non-high-risk PDR	No	3–4	Sometimes	No	Sometimes
	NCI-DME	2–4	Sometimes	Sometimes	Sometimes
	CI-DME†	1*	Sometimes	Sometimes	Usually
High-risk PDR	No	2–4	Recommended	No	Sometimes[132, 234]
	NCI-DME	2–4	Recommended	Sometimes	Sometimes
	CI-DME†	1*	Recommended	Sometimes	Usually

Anti-VEGF = anti-vascular endothelial growth factor; CI-DME = center-involved diabetic macular edema; NCI-DME = noncenter-involved diabetic macular edema; NPDR = nonproliferative diabetic retinopathy; PDR = proliferative diabetic retinopathy.

* Treatments that may be considered included intravitreal corticosteroids or anti-VEGF agents. Data from the Diabetic Retinopathy Clinical Research Network in 2011 demonstrated that, at 2 years of follow-up, intravitreal ranibizumab with prompt or deferred laser surgery resulted in greater visual acuity gain and intravitreal triamcinolone acetonide plus laser surgery also resulted in greater visual gain in pseudophakic eyes compared with laser surgery alone.[235] Individuals receiving the intravitreal injections of anti-VEGF agents may be re-examined as early as 1 month following injection.

† For patients with good visual acuity (20/25 or better) and CI-DME, there is no difference between observation plus aflibercept if visual acuity decreases, focal laser surgery plus aflibercept if visual acuity decreases, or anti-VEGF treatment. It is appropriate to defer treatment until visual acuity is worse than 20/25.[130] Exceptions include hypertension or fluid retention associated with heart failure, renal failure,