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International Council of Ophthalmology /
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ICO International Clinical Guidelines

Diabetic Retinopathy (Management Recommendations)

Management Recommendations for Patients with Diabetes

Severity of Retinopathy	Presence of CSME*	Follow-up (Months)	Scatter (Panretinal) Laser	Fluorescein Angiography	Focal Laser†
1. Normal or minimal NPDR	No	12	No	No	No
2. Mild to moderate NPDR	No	6-12	No	No	No
3. Severe or very severe NPDR	Yes	2-4	No	Usually	Usually* ^
4. Severe or very severe NPDR	No	2-4	Sometimes‡	Rarely	No
5. Non-high-risk PDR	Yes	2-4	Sometimes‡	Usually	Usually**
6. Non-high-risk PDR	No	2-4	Sometimes‡	Rarely	No
7. High-risk PDR	Yes	2-4	Sometimes‡	Usually	Usually^
8. High-risk PDR	No	3-4	Usually‡	Rarely	No

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ICO International Clinical Guidelines: Diabetic Retinopathy (Management Recommendations)

Page 2

9. High-risk PDR not amenable to photocoagulation (e.g., media opacities)	Yes	3-4	Usually‡	Usually	Usually**
10. High-risk PDR not amenable to photocoagulation (e.g., media opacities)	–	1-6	Not Possible††	Occasionally	Not Possible†

* Exceptions include: hypertension or fluid retention associated with heart failure, renal failure, pregnancy, or any other causes that may aggravate macular edema. Deferral of photocoagulation for a brief period of medical treatment may be considered in these cases. Also, deferral of CSME treatment is an option when the center of the macula is not involved, visual acuity is excellent, and the patient understands the risks.

† Focal photocoagulation refers to direct focal laser to microaneurysms or a grid photocoagulation pattern to areas of diffuse leakage or nonperfusion seen on fluorescein angiography.

^ Deferring focal photocoagulation for CSME is an option when the center of the macula is not involved, visual acuity is excellent, close follow-up is possible, and the patient understands the risks. However, initiation of treatment with focal photocoagulation should also be considered because although treatment with focal photocoagulation is less likely to improve the vision, it is more likely to stabilize the current visual acuity.

‡ Scatter (panretinal) photocoagulation surgery may be considered as patients approach high-risk PDR. The benefit of early scatter photocoagulation at the severe nonproliferative or worse stage of retinopathy is greater in patients with type 2 diabetes than in those with type 1.74. Treatment should be considered for patients with severe NPDR and type 2 diabetes. Other factors, such as poor compliance with follow-up, impending cataract extraction or pregnancy, and status of fellow eye will help in determining the timing of the scatter photocoagulation.

** Some experts feel that it is preferable to perform the focal photocoagulation first, prior to scatter photocoagulation, to minimize scatter laser-induced exacerbation of the macular edema.

†† Vitrectomy indicated in selected cases.

CSME = clinically significant macular edema; NPDR = nonproliferative diabetic retinopathy; PDR = proliferative diabetic retinopathy

ICO International Clinical Guidelines: Diabetic Retinopathy (Management Recommendations)

Page 3

* Adapted from the [American Academy of Ophthalmology Summary Benchmarks, November 2006 \(www.aao.org\)](http://www.aao.org)

(For more ICO International Clinical Guidelines, see www.icoph.org/guide)

Preface to the Guidelines:

International Clinical Guidelines are prepared and distributed by the International Council of Ophthalmology on behalf of the International Federation of Ophthalmological Societies.

These Guidelines are to serve a supportive and educational role for ophthalmologists worldwide. These guidelines are intended to improve the quality of eye care for patients. They have been adapted in many cases from similar documents (Benchmarks of Care) created by the American Academy of Ophthalmology based on their Preferred Practice Patterns.

While it is tempting to equate these to Standards, it is impossible and inappropriate to do so. The multiple circumstances of geography, equipment availability, patient variation and practice settings preclude a single standard.

Guidelines on the other hand are a clear statement of expectations. These include comments of the preferred level of performance assuming conditions that allow the use of optimum equipment, pharmaceuticals and/or surgical circumstances.

Thus, a basic expectation is created and if the situation is optimum, the optimum facets of diagnosis, treatment and follow up may be employed. Excellent, appropriate and successful care can also be provided where optimum conditions do not exist.

Simply following the Guidelines does not guarantee a successful outcome. It is understood that, given the uniqueness of a patient and his or her particular circumstance, physician judgment must be employed. This can result in a modification in application of a guideline in individual situations.

Medical experience has been relied upon in the preparation of these guidelines, and they are whenever possible, evidence-based. This means these Guidelines are based on the latest available scientific information. The ICO is committed to provide updates of these guidelines on a regular basis (approximately every two to three years).

(Also see the Introduction to the ICO International Clinical Guidelines at www.icoph.org/guide/guideintro.html and the list of other Guidelines at www.icoph.org/guide/guidelist.html.)