



INTERNATIONAL CLINICAL CLASSIFICATION OF DIABETIC RETINOPATHY  
SEVERITY OF DIABETIC MACULAR EDEMA

2 major levels, with subcategories for diabetic macular edema

Proposed Classification	Findings Observable Upon Dilated Ophthalmoscopy
Diabetic Macular Edema Absent	No retinal thickening or hard exudates in posterior pole
Diabetic Macular Edema Present	Some retinal thickening or hard exudates in posterior pole

If diabetic macular edema is present, it can be categorized as follows:

Proposed Classification	Findings Observable Upon Dilated Ophthalmoscopy*
Diabetic Macular Edema Present	<input type="checkbox"/> Mild Diabetic Macular Edema  Some retinal thickening or hard exudates in posterior pole but distant from the macula
	<input type="checkbox"/> Moderate Diabetic Macular Edema  Retinal thickening or hard exudates approaching the center of the macula but not involving the center
	<input type="checkbox"/> Severe Diabetic Macular Edema  Retinal thickening or hard exudates involving the center of the macula

\* Hard exudates are a sign of current or previous macular edema. Diabetic macular edema is defined as retinal thickening and this requires a 3-dimensional assessment that is best performed by a dilated examination using slit-lamp biomicroscopy and/or stereo fundus photography.

## Detailed Treatment Recommendations (Based on the Diabetic Retinopathy Preferred Practice Pattern, 1998)

These management options are provided as general practice patterns of care. Individualized treatment plans will vary, based on several clinical considerations and factors, based on the patient's circumstances, risk factors, systemic condition, etc. There are many modifiers or risk factors not included in this classification, but which are important in risk of disease progression and in managing individual patients. These factors should be taken into account by the clinician in decisionmaking, and in informing the patient and primary care physician/diabetologist.

Clinically significant macular edema is defined by the ETDRS to include any of the following features:

- Thickening of the retina at or within 500 microns of the center of the macula.
- Hard exudates at or within 500 microns of the center of the macula, if associated with thickening of the adjacent retina (not residual hard exudates remaining after the disappearance of retinal thickening).
- A zone or zones of retinal thickening one disc area or larger, any part of which is within one disc diameter of the center of the macula.

Patients with CSME should be considered for laser surgery. Appropriate laser photocoagulation surgery reduces the risk of visual loss by more than 50%, compared with no treatment ever. Even in the presence of 20/20 or better vision, patients with CSME should be considered for laser surgery because substantial recovery of reduced visual acuity is relatively unusual following treatment. A minority of patients have improvement in vision. In a majority of cases, the goal of treatment with laser photocoagulation is to stabilize the visual acuity. When treatment is deferred, as may be desirable when the center of the macula is not involved or imminently threatened, patients should be observed closely (at least every 3 to 4 months) for progression.

The diagnosis of diabetic macular edema can be difficult. Macular edema is best evaluated by dilated examination using slit-lamp biomicroscopy and/or stereo fundus photography. An ophthalmologist who treats patients for this condition should be familiar with relevant studies and techniques as per the ETDRS. Effective surgical treatment and retreatment protocols have been detailed. Preoperatively, the ophthalmologist should discuss with the patient side effects and risks of treatment. The goal of treatment is to reduce the rate of visual loss or stabilize visual acuity.

Most patients require more than one treatment session (average: 3-4), separated by two to four months, for retinal thickening to resolve.

Fluorescein angiography prior to surgery is often very helpful in identifying treatable lesions (although less important in the case of circinate lipid exudates in which leaking lesions are often obvious within the lipid ring) and identifying pathologic enlargement of the foveal avascular zone, which may be useful in planning treatment. Color fundus photography is often helpful to document the status of the retina even if surgery is not performed. A follow-up examination for individuals with CSME should be scheduled within 2 to 4 months of surgery.