



## Significance of Fovea-Sparing Internal Limiting Membrane Peeling Technique

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### DESCRIPTION

Internal Limiting Membrane (ILM) peeling is regarded as a vital step in vitreomacular surgery, particularly for conditions such as diabetic macular edema and retinal vascular occlusion, as well as for lamellar macular holes, full-thickness Macular Holes (MH), and Epiretinal Membrane (ERM). A recent ILM peeling technique that spares the fovea attempts to remove a ring of ILM tissue from the macula while leaving a tiny patch of ILM tissue above the fovea. Particularly for patients with myopic foveoschisis and small-size full-thickness MH, it was discovered to be both safer and to have a better functional outcome than total ILM peeling. Nevertheless, it is well known that ERM can happen even without ILM peeling. The central residual ILM may readily lead to subsequent ERM formation exclusively on the foveal tissue in individuals who had fovea-sparing ILM peeling. Few studies have so far documented the negative effects of ILM peeling that spares the fovea. In the beginning patients who had fovea-sparing ILM peeling might be normal but later experienced an isolated central ERM with foveal distortion and decreased visual acuity [1].

Myopic foveoschisis with increasing vision loss can be effectively treated with vitrectomy and Internal Limiting Membrane (ILM) peeling. Individuals with symptomatic Myopic Foveoschisis (MF) were evaluated for the structural and optical effects of fovea-sparing ILM peeling with or without the inverted flap technique. The Lamellar Macular Hole (LMH) was first discussed in 1976. Some findings, however, indicated that lamellar holes typically occur when the creation process of macular hole fails. Additional investigations suggested that the aetiology of LMH may be influenced by anteroposterior and tangential forces that induce centripetal or centrifugal traction on the fovea. The assumptions were, however, questioned by more recent spectral-domain Optical Coherence Tomography (OCT) investigations, which proposed that true LMH might be caused by remodelling of the foveal tissue that took place in the absence of overt epiretinal tractional stresses [2]. Macular Pseudoholes (MPHs) and Lamellar Macular Holes (LMHs), both of which feature lamellar intraretinal cleavage at the borders of non-Full-Thickness Macular

Holes (FTMHs), have previously been diagnosed differently using specific criteria. On the basis of structural heterogeneity seen on OCT imaging LMHs can be divided into two subtypes: tractional and degenerative. Whereas degenerative LMHs exhibit round-edged cavitation and a foveal bump and are frequently seen in combination with lamellar hole-associated epiretinal proliferation, tractional LMHs have a sharp-edged, "schisis-like" appearance and tractional Epiretinal Membrane (ERM) [3].

The definition of LMH has recently been modified and set apart from other related morphologies. The most frequent cause of an LMH diagnostic mistake is ERM foveoschisis. Formerly, LMH and MPH with extended edges were recognized as ERM foveoschisis but were referred to as "tractional" LMH and MPH.

The idea that only LMH is linked to tissue loss distinguishes LMH from ERM foveoschisis and MPH, among other conditions. In the presence of LMH, undermined margins, foveal thinning, and a posterior vitreous detachment linked to a pseudo-operculum are thought to be indicators of retinal cell loss on OCT. Nowadays, pars plana vitrectomy is the method recommended by the majority of vitreoretinal surgeons for ERM, foveoschisis, and LMH. This method helps to remove vitreomacular adhesions by removing the ILM and ERM, which in turn helps to restore the normal foveal profile. Whether tractional LMHs and degenerative LMHs affect postoperative visual acuity differently is still up for debate. When treating myopic foveoschisis and degenerative LMH, surgery with the FSIP method has been shown to lower the risk of serious postsurgical sequelae, including FTMH or retinal atrophy, compared with total peeling. In comparison to the FSIP surgical method, the total ILM peeling for ERM may decrease retinal sensitivity and dramatically increase the incidence of microscotomas. These surgical advantages of FSIP may be helpful for a newly discovered condition known as ERM foveoschisis [4].

MF was primarily linked to one or more retinal abnormalities, such as a lamellar macular hole, foveal detachment, and macular traction. By reducing mechanical traction on the foveal region, fovea-sparing ILM peeling decreased the likelihood of structural damage to the macular. The postoperative visual acuity and central

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retinal sensitivity may be enhanced by vitrectomy in conjunction with fovea-sparing ILM peeling. The complete ILM peeling and the foveal-sparing ILM peeling in MF were contrasted.

Several studies have demonstrated that the fovea-sparing ILM peeling group had improved Best-Corrected Visual Acuity (BCVA) and a decreased incidence of MH development. Using a retrobulbar injection needle intermittently shred the target region's boundary to preserve the ILM at the fovea. It made it easier to identify the reserved ILM area and prevented over-peeling while the procedure was being performed. One optic disc diameter of the ILM flap was set aside to properly cover the fovea and prevent shrinkage due to an excessive amount of reserved space.

The prognosis for vision may be impacted by pre-existing cataracts and post-operative cataract growth. For patients with MF and cataract, combined phacoemulsification with vitrectomy was the preferred approach to improving the prognosis [5].

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