## Eye Present



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## Incidence and management of epithelial loosening after LASIK.

aser in situ keratomileusis (LASIK) is performed worldwide with increasing frequency, for the correction of myopia, hyperopia and astigmatism. Early reports show postoperative LASIK complication rates from 0.9% to 7.2 %. The safety and effectiveness of LASIK continues to improve with decreasing rates of LASIK complications. He said, "With my experience of performing more than ten thousand LASIK operations, serious complication rates less than 1 percent. More devastating complications after LASIK are microbial keratitis and iatrogenic keratectasia. Both complications could be avoided by higher standards and experience of evaluation and operations of eyes."

Recurrent Epithelial Loosening (REL) after LASIK may be present at any time after LASIK with main patient compliances as discomfort or severe pain, photophobia, foreign body sensation, and blurred vision. It is not always with erosion and this makes it different than recurrent epithelial erosion. The major etiopathogenesis of RLE following LASIK is intraoperative Bowman trauma with microkeratomes and weak epithelial adhesion postoperatively.

Dr. Faik Oruçoğlu shared that the data were collected on 5566 eyes which underwent LASIK procedure with microkeratome from 2006 to 2007 at the Istanbul Surgery Hospital. Inclusion criteria for this study were presence of REL during a year after LASIK. REL was defined as an area of epithelial loosening or loss that was visible by slit lamp biomicroscopy. Patients with incomplete documentation and at least 6 months follow-up and presence with any corneal trauma postoperatively were excluded from the study.

Dr. Oruçoğlu added that all patients underwent subsequent LASIK procedure using the Moria M2 single-use head 90 microkeratome (Moria SA, Antony, France.) Eight eyes (0.14 % or one of approximately 696 eyes) of seven patients had recurrent epithelial loosening with or without epithelial defects after LASIK procedure.



Fig 1: Slit-lamp photograph showing loosely adherent epithelium four months following the LASIK procedure

Fig 2: Same case just after anterior stromal puncture (ASP) application

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Management of epithelial loosening included frequent lubrication and bandage contact lens application for all eyes. Additional anterior stromal micropuncture (ASP) was applied in four eyes (0.07 % or one of approximately 1392 eyes) to those cases where conventional medical treatment regimen failed or epithelial loosening episodes recurred.

According to Faik, ASP stimulates the production of extracellular matrix proteins, which in turn promotes attachment of the epithelium to the underlying connective tissue. Loose epithelium should be peeled off before ASP and Bandage Contact Lenses (BCL) should be applied after. BCL helps smooth epithelialization on the effected area. BCL should remain on the cornea for a long time.

To conclude, Dr. Oruçoğlu emphasized that loosening may develop any time after procedure, the most common appearance is 2 to 4 months postoperatively.

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Fig 3: Same case after ten months of ASP. No recurrence observed



Fig 4: Different case with advanced recurrent epithelial loosening (REL)



Fig 5: Another case with loosely adherent epithelium following the LASIK procedure.