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## Effects on Tear Secretion and Tear Film Stability after Laser In Situ Keratomileusis for Myopia

### Key Words

Dry eye  
Laser in situ keratomileusis (LASIK)  
Schirmer test  
Tear breakup time

### ABSTRACT

**Purpose.** To investigate the changes in tear secretion and tear film stability after laser in situ keratomileusis (LASIK) for myopia.

**Methods.** In a prospective study, 82 eyes (of 41 patients) underwent LASIK to correct myopia and myopic astigmatism with spherical equivalent refractions ranging from -1.5 to -10.25 (mean, -5.11 +/- 1.45) D. There were 15 men and 26 women (age range, 22-46; mean, 32.2 years). Attempted correction aimed at emmetropia. Dry eye symptoms, basic tear secretion (BST), Schirmer I (ST), and tear breakup time (BUT) tests were measured preoperatively and 1 week, and 1, 3 and 6 months after surgery.

**Results.** Subjective complaints of eye dryness increased after LASIK. Tear BUT had decreased at 1 week, and 1, 3 and 6 months postoperatively relative to the preoperative level ( $p < 0.05$ ). The BST and ST results were also lower than the respective preoperative values at 1 week, and 1, 3 and 6 months ( $p < 0.05$ ) after LASIK. No statistically significant correlation between these parameters and the amount of attempted correction was found.

**Conclusions.** Dry eye symptoms were very common after LASIK. LASIK significantly altered the basic secretion, Schirmer I, and tear breakup time test values. Patients undergoing LASIK should be informed of these risks, and proper treatment of dry eye is required in the LASIK postoperative period.  
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### INTRODUCTION

Laser in situ keratomileusis (LASIK) is a relatively new ophthalmic procedure. This technique involves the creation of a hinged corneal flap using a microkeratome. After the corneal flap is created, photoablation of the corneal stromal bed by a 193 nm argon fluoride excimer laser is performed. The corneal flap is then repositioned.

LASIK has become the most commonly performed refractive surgical procedure for the correction of myopia.<sup>1,2</sup> Most published literature suggests that LASIK is effective and relatively safe.<sup>3-6</sup>

Improvements in techniques and instrumentation have also decreased the incidence of serious complications after LASIK. However, dry eye symptoms are fairly common after the procedure.<sup>7,8</sup>

Clinical examinations to diagnose dry eye include

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