PURPOSE: Subepithelial nerves and stromal nerves of the cornea are damaged during LASEK surgery for the correction of myopia. This leads to a reduction in corneal sensation and to alterations of the tear film function in the early postoperative period. The aim of this study was to evaluate tear film function, corneal sensation and subjective symptoms of dry eye in the early postoperative period after LASEK for the correction of myopia.

METHODS: LASEK surgery was performed in 20 eyes of 10 consecutive patients for the correction of myopia (-1.0 to -9.0 D, mean -4.86 D). Subjective symptoms of a dry eye were evaluated with a standardised questionnaire. Schirmer test with and without local anaesthesia, tear film break-up time, fluorescein staining of the cornea and corneal esthesiometry (Cochet-Bonnet) were performed before surgery and 1 week, 1 month, 2 months and 3 months after LASEK. Additionally corneal staining and subjective symptom severity scores were assessed 3 days after surgery.

RESULTS: Corneal sensation was reduced 1 week after LASEK and recovered during the first month after LASEK. The tear film break-up time was reduced 1 week and 1 month after LASEK and reached preoperative values 2 months after surgery. Fluorescein staining was increased 3 days and 1 week after LASEK. Subjective symptom severity scores were increased 3 days, 1
week, 1 month and 2 months after LASEK. Schirmer tests values with local anaesthesia were significantly reduced at 3 months after surgery, but not at 3 days, 1 month, or 2 months. Schirmer test values without local anaesthesia were significantly decreased 2 and 3 months after LASEK, but not after 3 days and 1 month after LASEK. CONCLUSIONS: LASEK alters ocular surface haemostasis and reduces corneal sensation in the early postoperative period. Subjective symptoms of dry eye were described during the first 2 months after surgery.