

Corneal Sensitivity after Refractive Surgery

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Abstract: The objective of this study was to evaluate corneal reinnervation after different techniques of refractive surgery. Retrospective evaluation of corneal sensitivity was studied after keratotomy, epikeratophakia and photorefractive keratectomy. The measurements were performed with the Draeger electromechanical optical-controlled aesthesiometer which is extremely precise and independent of external changes in temperature and humidity. One measurement point was in the corneal centre of patients after keratotomy and photorefractive keratectomy and 5 approximately at 1 mm intervals to the limbus. Five measurement points were in the centre of the epikeratophakia lenticle and 4 next to the circumferential trephination on the host cornea. The study was carried out at the University of Hamburg and in private clinics in Rome. 35 patients after radial, asymmetric radial and mini asymmetric radial keratotomy, 7 patients after epikeratophakia and 82 patients after photorefractive keratectomy. Results: Corneal sensitivity after radial keratotomy, asymmetric radial keratotomy and mini asymmetric radial keratotomy is not influenced by radial incisions. Even 3 years after epikeratophakia the lenticle centre showed reduced thresholds. The reinnervation of the cornea after photorefractive keratectomy almost parallels the wound healing and corresponds to the ablation depth.