Fundamentals in PRK and LASIK Refractive Surgical Care

Susan J. Gromacki, O.D., M.S., F.A.A.O.
Diplomate: Cornea, Contact Lenses and Refractive Technologies
The American Academy of Optometry

Abstract:

The United States Food and Drug Administration (FDA) completed a collaborative study with the National Eye Institute (NEI) and the Department of Defense to examine the potential impact on quality of life from LASIK. We will discuss this study as well as the presenter’s own research on predictive measures of PRK success. Lastly, we will discuss the latest advances in comanaging LASIK and PRK with both pharmaceutical and contact lens applications.

Learning Objectives:

1. To review the LASIK Quality of Life Collaboration Project: design, goals, and results
2. To review the current LASIK and PRK complications
3. To provide postoperative management strategies to enhance success with LASIK and PRK
4. To provide postoperative contact lens fitting strategies to enhance success with LASIK and PRK

I. The LASIK Quality of Life Collaboration Project

A. October 15, 2009, the United States Food and Drug Administration (FDA) launched a collaborative study with the National Eye Institute (NEI) and the Department of Defense to examine the potential impact on quality of life from laser in situ keratomileusis (LASIK).

B. Results helped identify factors that can affect quality of life following LASIK and potentially reduce the risk of adverse effects that can impact the surgical outcome.

C. Evaluated the quality of life and satisfaction following LASIK as reported by patients in a select, active duty population treated at the Navy Refractive Surgery Center at Naval Medical Center San Diego as well as in the civilian population

II. Photorefractive Keratectomy (PRK) Quality of Life Project, West Point, New York

A. Patient quality of life following PRK utilizing the validated instrument NEI RQL-42

B. Factors that predict patient-reported outcomes six months or more after PRK surgery
III. LASIK Complications and their Management

A. Intraoperative

1. Free cap
2. Buttonhole flap
3. Epithelial defects
4. Decentered ablations

B. Postoperative

1. Flap striae
2. Corneal ectasia
   a. Prevention—new strategies
   b. Corneal collagen cross-linking (CXL)
   c. Contact lenses
3. Diffuse lamellar keratitis (DLK)
4. Interface Fluid Syndrome (IFS)
4. Infectious keratitis
5. Epithelial ingrowth
6. Postoperative flap displacement
7. Dry eye

IV. PRK Complications and their Management

A. Undercorrection

B. Overcorrection

C. Haze

V. Contact Lens Fitting after Refractive Surgery- Case Studies