

QUALITY OF VISION AFTER SMILE



Subjective quality of vision and the incidence of undesirable visual phenomena in SMILE patients.

BY NEEL VAIDYA, MD, MPH

PATIENT-REPORTED QUALITY OF VISION IN A PROSPECTIVE RANDOMIZED CONTRALATERAL-EYE TRIAL COMPARING LASIK AND SMALL-INCISION LENTICULE EXTRACTION

Ma KK, Manche EE¹

Industry support: Supported in part by an unrestricted grant from Johnson & Johnson Vision

ABSTRACT SUMMARY

In the study, 40 patients with myopia were randomly assigned to receive wavefront-guided femtosecond LASIK or SMILE in their dominant eye and

the alternate procedure in their fellow eye. The same surgeon performed all surgeries. Patients had between -0.75 and -8.00 D of myopia and less than 3.00 D of astigmatism.

Participants completed the Patient-Reported Outcomes With Laser in Situ Keratomileusis questionnaire and stated which eye had better subjective quality of vision preoperatively and 1, 3, 6, and 12 months postoperatively. There was no statistically significant difference in the prevalence or severity of double images, glare, halos, or starbursts between the groups at any time point. The prevalence and severity

of the symptoms decreased from the preoperative visit to the 12-month postoperative visit. At 12 months, more patients preferred the vision in their LASIK eye to the vision in their SMILE eye (46% vs 19%). The preferred eye was moderately correlated with patients' uncorrected distance visual acuity (UDVA).

DISCUSSION

LASIK is a popular elective procedure that achieves excellent results and patient satisfaction.² The volume of SMILE procedures performed is growing. It is therefore no surprise that studies have compared the outcomes of the two refractive procedures.^{3,4} It is important to look beyond objective measures such as visual acuity and residual refractive error. The presence of bothersome visual phenomena such as halos and glare can be a source of patient dissatisfaction following refractive surgery. The study by Ma and Manche¹ indicates that the rates of unwanted visual phenomena are similar after LASIK and SMILE. Importantly, the study also showed that the symptoms improved over time in most patients. The latter finding is worth bearing in mind when counseling patients on their refractive surgery options.

STUDY IN BRIEF

- ▶ A prospective randomized trial compared patient-reported quality of vision and visual symptoms in individuals with myopia who underwent LASIK or SMILE in their dominant eye and the alternate procedure in their contralateral eye. The rates of visual symptoms were similar between groups, and symptoms improved over time.

WHY IT MATTERS

The study suggests that patients undergoing SMILE and those receiving LASIK should be counseled similarly with respect to the prevalence of adverse visual symptoms and can be reassured that the symptoms (if present) will likely improve in time.

OBJECTIVE AND SUBJECTIVE QUALITY OF VISION AFTER SMILE FOR HIGH MYOPIA AND ASTIGMATISM

Reinstein DZ, Archer TJ, Vida RS, Carp GI, Reinstein JFR, McAlinden C⁵

Industry support: None

ABSTRACT SUMMARY

A prospective study evaluated patients' objective and subjective quality

of vision after undergoing high myopic SMILE. The study included 114 patients with -9.00 to -13.00 D of myopia and 5.00 D of cylinder or less preoperatively.

Several objective measures were used to evaluate visual outcomes, including patients' UDVA and corrected distance visual acuity, postoperative refractive error (spherical equivalent), and higher-order aberrations (HOAs). Subjective measures such as the

Rasch-Validated Quality of Vision questionnaire were also used to assess patient-reported outcomes.

SMILE was found to be effective for the correction of high myopia and astigmatism. Patients experienced significant improvements in their UDVA and corrected distance visual acuity. Subjectively, the mean satisfaction score was 9.27/10 (± 1.18), and 93% of patients

▶ THE LITERATURE

reported a satisfaction score higher than seven. Both subjective bothersome visual symptoms (halos and glare) and measured corneal HOAs increased postoperatively.

DISCUSSION

Patients with high myopia are often the most motivated to improve their UCVA,⁶ but achieving their goals can be challenging. These individuals are frequently denied refractive surgery owing to inadequate corneal thickness and the risk of corneal ectasia.⁷ Those who undergo refractive surgery often face

extended healing times and an increased rate of regression.⁸ The treatment of high myopia is known to induce more HOAs than the treatment of lower levels of myopia. Traditionally, the increase in HOAs has been considered correlative to a decrease in quality of vision.^{9,10}

The study by Reinstein et al⁵ suggests that SMILE can produce good subjective quality of vision despite an increase in measured HOAs. ■

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STUDY IN BRIEF

- ▶ A prospective trial evaluated objective and subjective quality of vision after SMILE in patients with high myopia and astigmatism. Postoperatively, subjective patient satisfaction was high. Corneal aberrations (objectively measured) and adverse visual phenomena (subjectively measured glare and halos) increased after surgery, but a statistical correlation was not found between the two.

WHY IT MATTERS

Evaluating patients with high myopia and astigmatism for refractive surgery can be challenging. The study suggests that these individuals can achieve excellent quality of vision with SMILE.

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