

it was not able to correct astigmatism or hyperopia. The procedure is rarely performed today for myopia correction, but it has a role in the treatment of keratoconus and corneal ectasia. The ring segments can flatten the cornea and delay the need for a penetrating keratoplasty.²¹

Patient selection

Serious complications of refractive surgery are, fortunately, extremely rare. "Disappointment" is much more common and may cause more problems for the refractive surgeon than serious vision loss. Disappointment can be minimized by careful patient selection (to weed-out inappropriate personality types) and the presentation of facts, so that nothing that is said or done will impart unrealistic expectations. Any mention of 20/15 or "perfect vision" can lead to an expectation of that outcome. Avoid making promises, instead, comments like "greatly improved vision" or "reduced dependence on glasses and contact lenses" foster realistic expectations. Marketing materials and staff interactions must also follow this pattern of refusing to over-promise.

Patient selection is more than a matter of meeting objective criteria. Perfectionists, individuals unable to tolerate small disappointments, and others who are likely to be grossly upset if they don't achieve 20/20 or better vision from their surgery should be excluded. However, with limited exposure to the patient, it is hard for the refractive surgeon to spot these personality traits. Working with a co-managing doctor who has known the patient for years and, therefore, has a greater insight into the patient's personality, is a great advantage.

The best candidates for refractive surgery are those who are strongly motivated to get rid of corrective lenses (Table 3), but who recognize that their postoperative uncorrected vision may not be quite what it was with correction prior to surgery. Good candidates are relatively easygoing and able to tolerate mild disappointments. Table 4 lists some of the attitudes and ocular conditions that make a patient a poor candidate. Recognizing these factors is essential to decrease potential postoperative problems.

For patients having ASA, one should not understate the possibility of some postoperative discomfort and delay in achieving optimum acuity. It is better to overstate the possibility than for the patient to be surprised

Table 3: Good candidates for refractive surgery

- Very unhappy with their dependence on corrective lenses
- Think they are poor candidates for contact lenses
- Believe wearing corrective lenses restricts them in sports and similar activities
- Think they look better without glasses
- Worry about what would happen to them if they lost/broke their glasses or contact lenses
- Would prefer merely functional vision without correction to excellent vision with corrective lenses
- Would be happy if their uncorrected vision could be much improved, even if corrective lenses were still necessary
- Adjust well to change
- Are easygoing; can tolerate disappointment
- Are not perfectionists

Table 4: Poor candidates for refractive surgery

- Under 18 years old
- Unstable refraction/progressive myopia
- Irregular astigmatism with loss of BCVA
- Dry eyes, with punctate keratopathy or filaments
- Cataract
- Herpes simplex
- Vision threatening macular disease (eg, diabetic retinopathy)
- Pregnancy
- Unrealistic expectations
- Unwilling to commit to follow-up

by it. This is much less an issue with LASIK, where patients tend to be comfortable postoperatively and experience an early return of best-corrected visual acuity. However, in many situations, a patient may be a candidate for ASA, but not for LASIK. ASA is the procedure of choice for patients with:

- epithelial basement membrane dystrophy (EBMD) as there is an increased risk of epithelial ingrowth with LASIK
- relatively thin central corneas, so that <250 microns of tissue would be left in the bed after ablation (there is the risk of corneal ectasia with LASIK)
- narrow palpebral fissures and/or deep-set eyes (which make work with the microkeratome difficult)
- keratoconus or forme-fruste keratoconus (risk of corneal ectasia with LASIK)
- extremely flat corneas (<39 D, that would result in a small diameter flap with LASIK), or steep corneas (>48 D, leading to increased risk of a button-hole flap with LASIK or ectasia if forme-fruste keratoconus)

Prior to the surgery

• Contact lens wearers must stop wearing their lenses for a period long enough to allow the corneas to stabilize (as shown by refraction and topography). For rigid gas-permeable contact lens wearers, this may be for a month or longer (Figures 7A and 7B). The corneas of soft lens wearers stabilize very quickly, sometimes within hours; however, 1 week is necessary to be certain that the cornea is stable

• Pupil size should be checked, preferably with infrared light (eg, Colvard pupillometry). An estimation of pupil size can be made with a narrow slit-beam with the room lights off and the patient fixating on a point in the distance. Glare and halos are uncommon today with laser vision correction using large optical and transition zones. In general, there are no contraindications to advanced laser eye surgery based on pupil size. However, with phakic implants, the pupil size should be <7 mm.

• Significant dry eye with punctate keratopathy should be aggressively treated with lubricating drops, gels, ointments, oral omega-fatty acids (eg, BioTears capsules, EyeV Inc), and/or silicone plugs prior to surgery. If symptoms or corneal findings cannot be resolved, the patient is a poor candidate for laser vision correction.

• Rule-out glaucoma. Patients with glaucoma are more susceptible to elevated pressures when topical steroids are used. In addition, a baseline disc evaluation and, if indicated, a visual field can be of value since postoperative intraocular pressures may be artificially low