Keratorefractive Surgery
(Initial and Follow-up Evaluation)

(Ratings: A: Most important, B: Moderately important, C: Relevant but not critical)

Strength of Evidence: I: Strong, II: Substantial but lacks some of I, III: consensus of expert opinion in absence of evidence for I & II)

Initial Exam History
- Present status of visual function (A:III)
- Ocular history (A:III)
- Systemic history (A:III)
- Medications (A:III)

Initial Physical Exam
- Visual acuity without correction (A:III)
- Manifest, and where appropriate, cycloplegic refraction (A:III)
- Computerized corneal topography (A:III)
- Central corneal thickness measurement (A:III)
- Evaluation of tear film (A:III)
- Evaluation of ocular motility and alignment (A:III)

Care Management
- Discontinue contact lenses before preoperative exam and procedure (A:III)
- Inform patient of the potential risks, benefits, and alternatives to and among the different refractive procedures (A:III)
- Document informed consent process; patient should be given an opportunity to have all questions answered before surgery (A:III)
- For LASIK, residual stromal bed thickness should not be less than 250 um (A:III)
- Check and calibrate instrumentation before the procedure (A:III)
- Surgeon confirms the identity of the patient, the operative eye, and that the parameters are correctly entered into the excimer laser’s computer (A:III)

Postoperative Care
- Operating surgeon is responsible for postoperative management (A:III)
- For surface ablation techniques, examine on the day following surgery and every 2 to 3 days thereafter until the epithelium is healed (A:III)
- For uncomplicated LASIK, examine within 48 hours following surgery, a second visit 1 to 4 weeks postoperatively, and further visits thereafter as appropriate (A:III)
Patient Education

Discuss the risks and benefits of the planned procedure with the patient. *(A:III)* Elements of the discussion include the following:

- Range of expected refractive outcomes
- Residual refractive error
- Reading and/or distance correction postoperatively
- Loss of best-corrected visual acuity
- Side effects and complications (e.g., microbial keratitis, sterile keratitis, keratectasia)
- Changes in visual function not necessarily measured by Snellen acuity, including glare and function under low-light conditions
- Night vision symptoms (e.g., glare, haloes) developing or worsening; careful consideration should be given to this issue for patients with high degrees of ametropia or for individuals who require a high level of visual function in low-light conditions
- Effect on ocular alignment
- Dry eye symptoms developing or worsening
- Monovision advantages and disadvantages (for patients of presbyopic age)
- Conventional and wavefront-guided ablations advantages and disadvantages
- Advantages and disadvantages of same-day bilateral keratorefractive surgery versus sequential surgery. Because vision might be poor for some time after bilateral same-day photorefractive keratectomy, the patient should be informed that activities such as driving might not be possible for weeks
- Postoperative care plans (setting of care, providers of care)

* Adapted from the American Academy of Ophthalmology Summary Benchmarks, November 2010 (www.aaao.org)