

refraction. For a subset of patients, this might be due to the minification produced by high myopic correction at the spectacle plane. In other cases, refractive amblyopia may be the cause. However, a pathologic basis for reduced best-corrected visual acuity should be sought. A suddenly acquired refractive change may signal a systemic or local disease, or a drug effect. Excellent visual acuity does not preclude serious eye disease; therefore, all adult patients should have comprehensive medical eye evaluations at the recommended intervals.^{165, 166}

Contact lens wearers should have a contact lens examination every 1 to 2 years to monitor for adverse effects of contact lens wear and for an update on healthy practices for contact lens wear and care.

The recommended frequency for an adult comprehensive medical eye examination for asymptomatic patients who do not have risk factors for eye disease is as follows: every 5–10 years for patients under 40 years old; every 2–4 years for patients 40 to 54 years old; every 1–3 years for patients 55 to 64 years old; and every 1–2 years for patients 65 years or older, as specified in the Comprehensive Adult Medical Eye Evaluation PPP.¹⁶⁶

MANAGEMENT

The need to correct refractive errors depends on the patient's symptoms and visual needs. Patients with low or monocular refractive errors may not require correction; small changes in refractive corrections in asymptomatic patients are generally not recommended. Correction options include eyeglasses, contact lenses, and surgery. Surgical options are discussed in the Refractive Surgery PPP.¹⁷⁰ These include refractive surgery to the cornea, such as LASIK and photorefractive keratectomy, and lens surgery, such as clear lens extraction, phakic intraocular lenses, and cataract surgery. Various occupational and recreational requirements as well as personal preferences affect the specific choices for any individual patient.

Presbyopia can be managed with eyeglasses or contact lenses (soft, rigid gas-permeable, or aspheric bifocal or multifocal). These can be used bilaterally or for monovision and modified monovision. Modified monovision is a treatment in which a bifocal or multifocal contact lens is used in one eye and a distance contact lens is used in the fellow eye. Surgical management of presbyopia includes keratorefractive surgery for monovision, intracorneal lens implants, or intraocular lens implantation (including monofocal lenses for monovision, multifocal lenses, or accommodative lenses).

Eyeglasses

Provision of appropriate spectacles is one of the simplest, most cost-effective strategies to improve vision; therefore, eyeglasses should be considered before contact lenses or refractive surgery.¹⁷¹ Additionally, patients whose primary mode of optical correction is contact lenses should have a pair of eyeglasses to decrease the risk of contact lens overwear and the use of contact lenses when the eye is red or inflamed. A patient's eyeglasses and refraction are typically evaluated whenever visual symptoms develop. Optimal eyeglass correction for higher refractive errors requires precision in fitting, especially with respect to the position of the optical center of each lens relative to the pupil. High-index lenses, which reduce the lens thickness and weight, are useful in correcting high refractive errors and providing increased comfort and better cosmetic appearance. The principles for correcting specific refractive errors with eyeglasses are outlined in Appendix 5.

When hyperopia is accompanied by esotropia, eyeglasses may be required to control the strabismus or to improve fusion.¹⁷² If minus lenses improve fusion in intermittent exotropia, eyeglass correction may be indicated even if the patient is not myopic.

A nonrefractive, yet important, indication for eyeglasses is to protect the eyes from accidental injury. Safety glasses or eye protectors are strongly recommended for individuals involved in certain sports (e.g., racquetball, squash) and hazardous activities in which there is risk of flying particles (e.g., using hammers, saws, weed trimmers) or risk of UV toxicity (welders).¹⁷³ Shatterproof eyeglasses are also recommended for all individuals with good vision in only one eye. When ocular protection is the foremost consideration, polycarbonate plastic is the material