Lasik correction for presbyopia

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 Presbyopia, the most common refractive error world wide, is due to loss of the eye ability to accommodate for comfortable near vision resulting in difficulty in focusing near objects. Through this work, we will review Lasik correction for presbyopia plus other methods used to overcome presbyopia. Methods for presbyopia reversal include:1. Non surgical methods: including:• Glasses: either bifocal, trifocal or progressive• Contact lenses: either monovision or multifocal C.Ls2. Surgical methods:• Scleral expansion bands ”SEB”: It involves implanting plastic segments in scleral tunnels in the oblique quadrants between the rectus muscles.• Anterior ciliary sclerotomy ”ACS”: It is an alternative technique which entails performing scleral radial incisions over the ciliary body area in specific quadrants to expand the sclera and thus allowing ciliary muscle to exert more power.• Conductive keratoplasty ”CK”: It is a non-ablative, non-incisional procedure that uses radio frequency energy to steepen the central cornea avoiding lasik related problems. CK correct presbyopia by creation of monovision.• Intraocular lenses ”IOLs”: Using either multifocal or accommodative IOLs are becoming the choice for correction of presbyopia particularly in eyes where the crystalline lens is not totally transparent.• Small diameter intracorneal inlay lens: Using a small hydrogel implant that placed in the center of the cornea making it hyperpositive ”+3.00 or +4.00 D” that used for near vision and the peripheral normal cornea used for distant vision.• Laser modification of crystalline lens: either :1. Photophako reduction: where the lens volume is reduced.2. Photophako modulation: where the lens structure is modified. Using lasik for correction of presbyopia includes two strategies:1. Monovision2. Presbylasik Monovision is the procedure in which one eye is corrected for near and the other for far. When the non dominant eye is corrected for near, this is called ’’Uncrossed monovision’’ and when the dominant eye is corrected for near, this is called ’’Crossed monovision’’. The choice of technique of monovision ’’Crossed or Uncrossed’’ depends on patient acceptance and satisfaction but generally the ’’Uncrossed monovision’’ is mostly done due to higher acceptance by patient. Monovision relies on the principle of interocular blur suppression or the ability to ignore the blurred image in anisometropia with one eye set for distance and other eye for near. Monovision induced by lasik may be a valuable option for both myopic and hyperopic presbyopic individuals considering refractive surgery as it reduces dependence on glasses for both distance and near vision, however, factors such as reduced stereoacuity, reduced contrast sensitivity and induced esophoric shift may make monovision intolerable to some patients.