

OSN At Issue: Lens exchange vs. corneal refractive surgery



At Issue posed the following question to a panel of experts: "For what refractive errors would you consider lens-based surgery over laser-based procedures?"



Correction depends on refractive error

Noel A. Alpins, MD: Cornea-based laser surgery has limits that vary depending on the laser employed, the patient's own physical characteristics and the personal experience of the surgeon.

Some lasers are more tissue-hungry than others so that when the possible refractive change is exceeded, lens-based surgery such as refractive lens exchange



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(RLE) or phakic IOL implantation is required. These treatment limits can vary in myopia and hyperopia. Any associated astigmatism to be treated can lower these values further.

If the patient's own physical characteristics are favorable, then the refrac-

tive error can be treated up to a level of 12 D of myopia or 5 D of hyperopia. However, corneal biomechanical fac-

whereas experience with mitomycin-C as a tool assisting surface ablation, the myopic dioptric range for laser corneal refractive surgery can in many cases be maximized.

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tors such as overall thickness, regional thinness due to high posterior float, eccentric thinnest point or evidence of significant corneal irregularity will limit the corneal correction, thus requiring lens exchange or phakic implant. The older the patient, particularly when past the age of 50 where lens clarity may be diminishing, the greater the indication for refractive lens exchange, which is particularly the case with presbyopic hyperopes. The younger pre-presbyopic age is more favorable to the use of phakic IOLs.

The experience of the surgeon has a large influence, where the myopic limits for LASIK can be narrowed by factors such as the laser used, balanced against whether lens supplement or exchange is a commonly favored option. The experience with use of phakic IOLs will likely narrow the range of dioptric error further for laser-based corneal surgery,