Chapter Highlights

- Surgical decisions based on preoperative refractive error
- Surgical decisions based on minimizing complications for specific indications
- Relative comparison of refractive surgical procedures
- Refractive surgery decision tree analysis

Surgical decision making is too complex and multifactorial in nature to put into a simple table or flow diagram. Beyond the numerous issues discussed in the chapters on procedure overview, biomechanical considerations, and surgical complications, one must always keep the patient’s choice and his or her desires at the forefront of every surgical decision.

For many patients, more than one surgical option exists, and the same visual outcomes may be achieved through different procedures for many of them. For other patients, no surgery is recommended, even when considering the diversity of surgical options available. For some patients, one particular procedure will have the most advantageous risk/benefit profile and will most likely generate the best outcome.

Some general guidelines can be followed to help navigate the surgical decision process. This process has been categorized based first on refractive error, followed by procedure choice based on minimizing risk of complications. These are guidelines only, not dictums to follow absolutely, and these guidelines are subject to interpretation. They inevitably represent my subjective experience and interpretation of the available data; thus, other surgeons may structure this list differently.

Surgical Decisions Based on Preoperative Refractive Error

Indications and “best” treatment ranges for different procedures vary significantly. Treatment ranges are based on spherical error only (myopia and hyperopia), as there does not appear to be significant differences in outcomes for regular astigmatic correction among currently available...