Incisional procedures alter corneal curvature resulting in a change in the refractive error. Unfortunately, it is not uncommon for astigmatism to increase in magnitude and irregularity. Patients with a history of RK often demonstrate excessively small optical zones and severe central flattening with a loss of best-corrected vision (Figure 8-26).

Excimer procedures ablate tissue, altering corneal shape to reduce the refractive error and allow the patient lens independence upon refractive correction. Resulting topographical patterns should be easily recognizable. Normal myopic treatments ablate centrally, resulting in central thinning corresponding to the ablation area and a central plateau. This creates positive spherical aberration (Figure 8-27). Hyperopic treatments result in central steepening and negative spherical aberration (Figure 8-28). Decentered myopic and hyperopic ablations, when significant, result in polyplopia (Figure 8-29).