Saib et al\textsuperscript{14} reported results with hyperopic presbyopes treated using central presbyopic LASIK with induced micro-monovision using the Technolas 217P excimer. They evaluated 74 eyes of 37 patients. The mean postoperative spherical equivalent refraction was 0.0 D ± 0.58 D in the dominant eyes and 0.51 D ± 0.54 D for nondominant (near corrected) eyes. The mean central steep zone was 2.35 D ± 1.0 D. There was significantly more negative spherical aberration and vertical coma in the central 5.0 mm postoperatively ($P < .05$).\textsuperscript{14} Another report of 23 patients (46 eyes) receiving bilateral LASIK with a multifocal corneal ablation profile at 6 months found 6% of patients lost 2 or more lines of best-corrected vision, although 100% did maintain a CDVA of 0.2 logMAR or better. Ryan and O’Keefe\textsuperscript{15} suggested a -0.5 D target in the nondominant eye is helpful for patient satisfaction.

Doyle et al\textsuperscript{16} reported retreatment rates using Supracor. Thirty-eight patients (76 eyes) were treated. Forty-two percent of patients (16 patients) who underwent the Supracor procedure initially required at least one further corrective procedure. Mean follow-up time was 12 months.\textsuperscript{16} Six months after the primary treatment, 7 eyes lost 1 line of Snellen CDVA and 1 eye lost 2 lines compared to preoperative corrected visual acuity. After all retreatments, 9 eyes lost 1 line, and 2 eyes lost 2 lines compared to preoperative corrected visual acuity. Mean unaided distance acuity after primary treatment was 20/25.8 at 6 months and was unchanged after retreatments. Six months after the primary treatment, the UDVA was 20/30 or better in 92% of eyes and dropped to 91% after all treatments. The high enhancement rate and loss of best-corrected vision was theorized to be related to the small blend zone (due to the tissue sparing algorithm used), the hyperpositive central zone, and pupil centration.\textsuperscript{16}

**Progressive Multifocal LASIK (WaveLight Q Factor Modulation)**

Progressive multifocal LASIK utilizes LASIK to create a multifocal or aspheric cornea. Increasing prolateness, or negative Q value, increases negative spherical aberration resulting in an increased depth of focus. Essentially, a myopic treatment is performed followed by an equal hyperopic treatment.

A retrospective study of 102 patients treated using progressive multifocal LASIK with the WaveLight Allegretto platform (Alcon Laboratories, Inc) reported 3-month results. After surgery, 81% of patients had 20/20 or better binocular UDVA. Ninety-eight percent had 20/25 or better binocular UDVA. Additionally, 44% of patients had J1 binocular near visual acuity, 60% had J2, and 96% had J3.\textsuperscript{17}

Wang Yin et al\textsuperscript{18} reported results on hyperopic patients treated using central presbyopic LASIK where the dominant eye was treated using standard algorithms for distance, while the nondominant eye was treated for near using a Q factor modulation. One hundred thirty eyes of 69 patients were treated. At 1 year, mean binocular UDVA was 20/20. Mean binocular UNVA was J2, and the mean binocular UIVA was 20/20. As expected with a hyperopic treatment, the mean keratometry value was statistically higher in nondominant eyes than the mean in dominant eyes (45.85 D ± 1.47 D vs 43.93 D ± 1.77 D; $P = .002$). More than 95% of patients were satisfied 3 months after surgery, and at 6 months, 100% of patients said they would recommend the procedure.\textsuperscript{18}

**CustomVis Multizone Presbyopia Treatment**

The Pulzar Z1 (CustomVis) solid state laser presbyopia software utilizes a treatment plan with 3 zones: central far vision zone, intermediate near vision zone, and peripheral far vision zone. The platform algorithms aim to provide smooth transition between the zones, with minimal corneal tissue removal. The dominant eye is treated for distance vision, and the nondominant eye receives the multizone presbyopia treatment (Figure 3-6).

A study of 36 patients reported 12-month data. Preoperatively, UNVA was an average 20/72.5. Postoperatively, 100% of the patients achieved near vision of 20/40 or better, with 89% achieving 20/30 or better and 58% achieving 20/20. Average postoperative near vision was 20/22.9.

Initial UDVA was on average 20/28. Ninety-two percent of patients were 20/40 or better at distance. After the PresbyLASIK treatment, nearly 82% of patients maintained a distance vision of 20/40 or better. Average uncorrected visual acuity was 20/34.