**Table 1.** Summary of intraocular lens formulas

|  |  |  |
| --- | --- | --- |
| Formula | Metrics Used | Derivation Method |
| SRK/T | AL, K | Theoretical |
| Haigis | AL, K, ACD | Theoretical |
| Barrett Universal II | AL, K, ACD, LT\*, WTW\* | Theoretical |
| Kane | AL, K, ACD, sex, LT\*, CCT\* | Theoretical/regression/artificial intelligence |
| EVO | AL, K, ACD, LT\*, CCT\* | Emmetropization |
| Hill-RBF3.0 | AL, K, ACD, sex, WTW\*, LT\*, CCT\* | Regression/artificial intelligence |

\* optional

**Table 2.** Demographic and biometric characteristics

|  |  |  |
| --- | --- | --- |
| Parameter | Mean ± SD | Range |
| Age (y) | 61.37 ± 12.62 | 35, 88 |
| AL (mm) | 28.95 ± 2.28 | 26.00, 33.50 |
| Mean K (D) | 43.61 ± 1.34 | 40.68, 46.27 |
| ACD (mm) | 3.50 ± 0.43 | 2.53, 4.84 |
| LT (mm) | 4.31 ± 0.55 | 3.09, 5.28 |
| IOL power (D) | 10.94 ± 5.23 | 2.0, 19.0 |
| Female sex, n (%) | 39 (60.0%) | |
| Right eye, n(%) | 50 (76.9%) | |
| AL subgroup, n (%) |  | |
| 26.00≤AL＜28.00 mm | 26 (40.0%) | |
| 28.00≤AL＜30.00 mm | 18 (27.7%) | |
| AL≥30.00 mm | 21 (32.3%) | |

**Table 3.** Clinical outcomes of refractive errors for each formula sorted by MAE

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Formula | MAE | MedAE | ME | SD | PE≤±0.25D | PE≤±0.50D | PE≤±0.75D | PE≤±1.00D |
| Kane | 0.323 | 0.298 | 0.000 | 0.402 | 44.6 | 80.0 | 93.8 | 98.5 |
| EVO | 0.335 | 0.285 | 0.000 | 0.437 | 46.2 | 78.4 | 95.4 | 96.9 |
| Hill-RBF3.0 | 0.346 | 0.240 | 0.000 | 0.481 | 50.8 | 78.5 | 89.2 | 95.4 |
| Barrett Universal II | 0.361 | 0.313 | 0.000 | 0.472 | 40.0 | 75.4 | 92.3 | 96.9 |
| Haigis | 0.415 | 0.360 | 0.000 | 0.535 | 38.5 | 66.2 | 84.6 | 92.3 |
| SRK/T | 0.450 | 0.370 | 0.000 | 0.572 | 36.9 | 60.0 | 80.0 | 95.4 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| AL/Parameter | Kane | Hill-RBF3.0 | EVO | Barrett Universal II | Haigis | SRK/T |
| 26.00≤AL＜28.00 mm |  |  |  |  |  |  |
| MAE (D) | 0.363 | 0.345 | 0.328 | 0.354 | 0.467 | 0.446 |
| MedAE (D) | 0.300 | 0.260 | 0.360 | 0.338 | 0.375 | 0.440 |
| 28.00≤AL＜30.00 mm |  |  |  |  |  |  |
| MAE (D) | 0.223 | 0.268 | 0.244 | 0.290 | 0.298 | 0.344 |
| MedAE (D) | 0.220 | 0.195 | 0.210 | 0.273 | 0.255 | 0.275 |
| AL≥30.00 mm |  |  |  |  |  |  |
| MAE (D) | 0.358 | 0.415 | 0.420 | 0.431 | 0.450 | 0.545 |
| MedAE (D) | 0.318 | 0.240 | 0.285 | 0.317 | 0.420 | 0.430 |

**Table 4.** MAE and MedAE for each formula by axial length