Supplemental Material

Title
Cost-effectiveness of Presbyopia Correction among Seven Strategies of Bilateral Cataract Surgery Based on a Prospective Single-blind Two-Center Trial in China

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There are one Supplementary Figure and three Supplementary Tables included in the Supplementary Information.

**Supplementary Figure S1.** Flow diagram showing participant assignment and outcome items in the seven strategies.

**Supplementary Table S1.** Design for Bilateral Cataract Surgery in the Seven Strategies.

**Supplementary Table S2.** Baseline Analysis of Demographic Statistics and Preoperative Ocular Biometry in the Seven.

**Supplementary Table S3.** Percentage of Eyes within Certain Range of Refractive Prediction Error in the Seven Strategies.
Supplementary Figure S1 Flow diagram showing participant assignment and outcome items in the seven strategies. The excluded participants were someone with abnormal suspensory ligament of the lens, retinopathy, or optic neuropathy. The lost participants withdrew from the trial for personal reasons. Abbreviations: UDVA, uncorrected distance visual acuity; UIVA, uncorrected intermediate visual acuity; UNVA, uncorrected near visual acuity; logMAR, logarithm of minimum angle of resolution; IOL, intraocular len; EDOF, extended depth of focus; ACER, average cost-effectiveness ratio; ICER, incremental cost-effectiveness ratio. N, n, the number of patients.
### Supplementary Table S1. Design for Bilateral Cataract Surgery in the Seven Strategies

| Design          | Monofocal Strategy | Monovision Strategy | Diffractive Bifocal Strategy | Blended Strategy | Refractive Bifocal Strategy | Trifocal Strategy | EDOF Strategy |
|-----------------|--------------------|---------------------|-----------------------------|-----------------|-----------------------------|------------------|---------------|
| IOL type        | Bilateral monofocal IOLs | Bilateral monofocal IOLs | Bilateral diffractive bifocal IOLs with the same near additional power | Diffractive bifocal IOLs with varied near additional power for each eye | Bilateral refractive bifocal IOLs | Bilateral trifocal IOLs | Bilateral EDOF IOLs |
| IOL model       | AcrySof IQ (SN60WF) (Alcon Laboratories, Inc., Forth-Worth, TX, USA) or Rayner 920H (Rayner Intraocular Lenses Ltd., Hove, East Sussex, UK) | AcrySof IQ (SN60WF) (Alcon Laboratories, Inc., Forth-Worth, TX, USA) or Rayner 920H (Rayner Intraocular Lenses Ltd., Hove, East Sussex, UK) | AcrySof IQ ReSTOR +3.0D (SN6AD1) (Alcon Laboratories, Inc., Forth-Worth, TX, USA) | AcrySof IQ ReSTOR +2.5D (SV25T0) and +3.0D (SN6AD1) (Alcon Laboratories, Inc., Forth-Worth, TX, USA) | AT LISA tri 839MP (Carl Zeiss Meditec AG) | Tecnis Symfony ZXR00 (Johnson & Johnson Vision, Inc., USA) |
| Target refraction | Emmetropia | Emmetropia | Emmetropia (+3.0 D\(^a\)) | Emmetropia (+2.5 D\(^b\)) | Emmetropia | Emmetropia | Emmetropia |
| Dominant eye    | Emmetropia | Myopia (≈−2.00 D) | Emmetropia (+3.0 D\(^a\)) | Emmetropia (+3.0 D\(^a\)) | Emmetropia | Emmetropia | Myopia (≈−0.50 D) |
| Nondominant eye | Emmetropia | Emmetropia | Emmetropia (+3.0 D\(^a\)) | Emmetropia (+3.0 D\(^a\)) | Emmetropia | Emmetropia | Myopia (≈−0.50 D) |

\(^a\) The diffractive bifocal IOL with +3.0D near additional power.
\(^b\) The diffractive bifocal IOL with +2.5D near additional power.

Abbreviations: D, diopter; IOL, intraocular lens; EDOF, extended depth of focus.
## Supplementary Table S2. Baseline Analysis of Demographic Statistics and Preoperative Ocular Biometry in the Seven Strategies

| Baseline Characteristics | Monofocal Strategy | Monovision Strategy | Diffractive Bifocal Strategy | Blended Strategy | Refractive Bifocal Strategy | Trifocal Strategy | EDOF Strategy | P Values |
|-------------------------|--------------------|---------------------|-------------------------------|-----------------|----------------------------|------------------|---------------|----------|
| Demographic statistics  |                    |                     |                               |                 |                            |                  |               |          |
| Patients, No.           | 27                 | 28                  | 27                            | 27              | 28                         | 29               | 28            |          |
| No. (center 1<sup>a</sup>/center 2<sup>b</sup>) | 13/14              | 13/15               | 12/15                         | 0/27            | 14/14                      | 29/0             | 13/15        | <0.001   |
| Gender, No.(Male/Female) | 6/21               | 8/20                | 10/17                         | 10/17           | 9/19                       | 13/16            | 9/19          | 0.695    |
| Age (y)                 | 65.59±6.45         | 66.11±6.24          | 65.26±5.75                    | 65.26±6.65      | 64.07±6.13                  | 64.66±6.88       | 64.64±5.92    | 0.923    |
| No. (< 65y / ≥ 65y)    | 12/15              | 11/17               | 12/15                         | 11/16           | 15/13                      | 15/14            | 12/16         | 0.922    |
| Preoperative ocular biometry<sup>c</sup> |                    |                     |                               |                 |                            |                  |               |          |
| Eyes, No.               | 54                 | 56                  | 54                            | 54              | 56                         | 58               | 56            |          |
| Ocular axial length (mm) | 23.69±0.93         | 23.77±1.47          | 23.85±0.9                    | 23.93±0.93      | 23.63±0.85                 | 23.87±1.06       | 23.50±1.04    | 0.321    |
| Corneal astigmatism (D) | 0.61±0.25          | 0.66±0.26           | 0.62±0.24                     | 0.59±0.21       | 0.59±0.27                  | 0.59±0.27        | 0.67±0.30     | 0.476    |
| Pupil diameter (mm)     | 3.13±0.67          | 3.26±1.06           | 3.26±1.03                     | 3.44±1.19       | 3.16±0.86                  | 3.13±0.8         | 3.22±1.05     | 0.666    |
| Kappa angle distance (mm) | 0.27±0.16         | 0.33±0.17           | 0.26±0.17                     | 0.28±0.29       | 0.29±0.21                  | 0.28±0.19        | 0.30±0.17     | 0.965    |

<sup>a</sup> Center 1 = Peking University Third Hospital located in North China.
<sup>b</sup> Center 2 = the People's Hospital of Guangxi Zhuang Autonomous Region located in South China.
<sup>c</sup> Preoperative ocular biometry was measured with Zeiss IOL Master 700 (Carl Zeiss, Jena, Germany) and Oculus Pentacam Corneal Topography (Oculus Optikgerate GmbH, Wetzlar, Germany). IOL power was calculated using the Barrett Universal II Formula.

Abbreviations: EDOF, extended depth of focus; SD, standard deviation; D, diopter.
Supplementary Table S3. Percentage of Eyes within Certain Range of Refractive Prediction Error in the Seven Strategies

| Refractive Prediction Error<sup>a</sup> | Monofocal Strategy | Monovision Strategy | Diffractive Bifocal Strategy | Blended Strategy | Refractive Bifocal Strategy | Trifocal Strategy | EDOF Strategy | P Values |
|--------------------------------------|--------------------|---------------------|-----------------------------|-----------------|-----------------------------|-----------------|--------------|---------|
| Eyes, No. within ± 0.25D, No. (%)     | 54 (76)            | 56                  | 54                          | 54              | 56                          | 58              | 56           | 0.610   |
| within ± 0.5D, No. (%)                | 49 (91)            | 50 (89)             | 51 (94)                     | 50 (93)         | 52 (93)                     | 54 (93)         | 51 (91)      | 0.974   |
| within ± 1.0D, No. (%)                | 54 (100)           | 56 (100)            | 54 (100)                    | 54 (100)        | 56 (100)                    | 58 (100)        | 56 (100)     | >0.999  |

<sup>a</sup> Refractive prediction error was calculated as the difference between the postoperative actual refraction spherical equivalent and predicted refractive spherical equivalent.

Abbreviations: D, diopter; EDOF, extended depth of focus.