

Supplemental table 1. Comparisons of RNFL thickness between age and gender subgroups

| Segment | Age | | Gender | | Age*Gender | |
|--|--------|---------|--------|---------|------------|---------|
| | B | P-value | B | P-value | B | P-value |
| RNFL thickness (μm) | | | | | | |
| Average | -0.188 | <0.001 | 3.597 | 0.047 | -0.031 | 0.336 |
| Superior | -0.245 | 0.003 | 5.742 | 0.047 | -0.067 | 0.195 |
| Nasal | -0.024 | 0.715 | 4.755 | 0.043 | -0.061 | 0.140 |
| Inferior | -0.278 | <0.001 | 3.950 | 0.163 | -0.020 | 0.689 |
| Temporal | -0.208 | <0.001 | -0.565 | 0.774 | 0.035 | 0.314 |
| ONH parameters | | | | | | |
| Rim area (mm ²) | 0.004 | 0.078 | 0.237 | 0.003 | -0.003 | 0.077 |
| Disc area (mm ²) | 0.003 | 0.190 | -0.003 | 0.974 | <0.001 | 0.807 |
| Average CDR (mm ²) | -0.001 | 0.279 | 0.065 | 0.065 | <0.001 | 0.227 |
| Cup volume (mm ³) | -0.001 | 0.085 | 0.003 | 0.003 | 0.001 | 0.164 |
| Axial length (mm) | -0.011 | 0.006 | 0.002 | 0.002 | 0.001 | 0.648 |
| 16 sections (μm) | | | | | | |
| TU1 | -0.164 | 0.003 | -0.539 | 0.784 | 0.032 | 0.360 |
| TU2 | -0.198 | 0.014 | 4.199 | 0.134 | 0.006 | 0.902 |
| ST2 | -0.193 | 0.069 | 10.527 | 0.005 | -0.084 | 0.205 |
| ST1 | -0.388 | <0.001 | 1.272 | 0.737 | -0.018 | 0.784 |
| SN1 | -0.232 | 0.048 | 6.010 | 0.144 | -0.080 | 0.273 |
| SN2 | -0.175 | 0.081 | 5.853 | 0.094 | -0.081 | 0.191 |
| NU2 | -0.124 | 0.164 | 1.581 | 0.612 | -0.025 | 0.648 |
| NU1 | -0.035 | 0.602 | 3.296 | 0.155 | -0.045 | 0.274 |
| NL1 | 0.077 | 0.207 | 6.742 | 0.002 | -0.090 | 0.018 |
| NL2 | -0.014 | 0.863 | 7.576 | 0.008 | -0.091 | 0.076 |
| IN2 | -0.127 | 0.214 | 3.661 | 0.306 | -0.020 | 0.756 |
| IN1 | -0.221 | 0.073 | 2.676 | 0.536 | 0.001 | 0.988 |
| IT1 | -0.382 | <0.001 | 3.988 | 0.286 | -0.028 | 0.675 |
| IT2 | -0.431 | <0.001 | 3.991 | 0.311 | -0.010 | 0.885 |
| TL2 | -0.288 | <0.001 | -1.869 | 0.488 | 0.044 | 0.355 |
| TL1 | -0.164 | <0.001 | -3.129 | 0.050 | 0.046 | 0.102 |

Supplemental table 2. Comparisons of sectionalized RNFL thickness between male and female in 16 sections.

| Segment | Female (N=3819) | Male (N=3205) | t | P-value |
|-------------------------|-----------------|---------------|--------|---------|
| 16 sections (µm) | | | | |
| TU1 | 73.99±12.92 | 72.69±12.7 | 4.279 | < 0.001 |
| TU2 | 101.93±18.62 | 97.24±17.50 | 10.832 | < 0.001 |
| ST2 | 140.08±23.73 | 133.93±23.85 | 10.746 | < 0.001 |
| ST1 | 156.10±24.37 | 155.57±24.37 | 0.890 | 0.372 |
| SN1 | 139.34±26.59 | 137.58±26.39 | 2.761 | 0.006 |
| SN2 | 133.87±23.82 | 132.21±22.80 | 2.776 | 0.006 |
| NU2 | 102.53±21.04 | 102.20±19.61 | 0.670 | 0.501 |
| NU1 | 74.26±15.34 | 73.34±14.70 | 2.564 | 0.010 |
| NL1 | 69.79±13.82 | 67.95±13.73 | 5.544 | < 0.001 |
| NL2 | 92.71±19.58 | 90.02±18.79 | 5.850 | < 0.001 |
| IN2 | 129.98±23.40 | 127.16±23.22 | 4.874 | < 0.001 |
| IN1 | 153.88±27.41 | 150.89±26.93 | 4.569 | < 0.001 |
| IT1 | 169.39±24.05 | 166.53±23.34 | 5.036 | < 0.001 |
| IT2 | 141.13±26.01 | 137.34±24.99 | 6.192 | < 0.001 |
| TL2 | 87.94±18.38 | 87.20±17.13 | 1.725 | 0.085 |
| TL1 | 63.99±10.23 | 64.51±10.02 | -2.145 | 0.032 |

Statistics presented: mean±SD; n (%)

Supplemental table 3. Comparisons of sectionalized RNFL thickness between different age groups in 16 sections.

| Segment | Age | | | | | P-value |
|-------------------------|----------------|-------------------|-------------------|-------------------|----------------|---------|
| | <39 (N=352) | 40-49 (N=1728) | 50-59 (N=2095) | 60-69 (N=1647) | ≥70 (N=550) | |
| 16 sections (μm) | | | | | | |
| TU1 | 74.67±12.05 | 74.78±12.47 | 73.69±12.76 | 72.45±12.28 | 69.77±14.77 | < 0.001 |
| TU2 | 101.68±18.17 | 102.31±18.09 | 100.24±17.83 | 98.02±17.89 | 94.28±20.32 | < 0.001 |
| ST2 | 139.45±23.36 | 141.50±23.57 | 137.85±22.82 | 134.29±24.11 | 128.69±26.39 | < 0.001 |
| ST1 | 158.05±23.60 | 160.89±23.52 | 156.92±23.81 | 151.39±24.08 | 146.64±26.30 | < 0.001 |
| SN1 | 140.65±27.98 | 142.51±25.93 | 138.92±25.97 | 135.21±26.35 | 130.78±25.98 | < 0.001 |
| SN2 | 134.88±25.08 | 136.46±22.73 | 133.47±23.05 | 130.58±23.52 | 126.50±22.63 | < 0.001 |
| NU2 | 104.53±20.70 | 103.57±19.56 | 102.75±19.98 | 101.46±21.41 | 98.37±21.25 | < 0.001 |
| NU1 | 74.70±14.52 | 74.63±14.27 | 74.24±15.01 | 73.12±15.73 | 71.12±15.94 | < 0.001 |
| NL1 | 68.85±13.28 | 69.45±12.97 | 69.15±13.54 | 68.54±14.32 | 67.33±16.14 | 0.022 |
| NL2 | 91.84±18.74 | 93.08±18.71 | 91.66±18.68 | 90.16±19.69 | 87.85±21.49 | < 0.001 |
| IN2 | 129.32±22.10 | 130.10±22.66 | 128.69±22.98 | 127.72±23.92 | 124.21±25.23 | < 0.001 |
| IN1 | 153.52±25.45 | 153.95±27.33 | 152.64±26.79 | 151.36±27.62 | 146.24±28.94 | < 0.001 |
| IT1 | 171.16±23.51 | 172.12±22.89 | 168.57±22.88 | 164.70±23.59 | 157.46±27.31 | < 0.001 |
| IT2 | 144.21±25.77 | 144.44±25.36 | 140.71±24.71 | 134.60±25.05 | 128.85±27.83 | < 0.001 |
| TL2 | 90.42±18.29 | 89.99±17.32 | 88.52±17.87 | 85.30±17.23 | 82.10±20.25 | < 0.001 |
| TL1 | 65.44±9.80 | 65.11±9.64 | 64.59±10.21 | 63.59±9.81 | 61.44±12.45 | < 0.001 |

Statistics presented: mean±SD; n (%)

Supplemental table 4. Comparisons of sectionalized RNFL thickness between male and female.

Statistics presented: mean±SD; n (%)

| Segment | Female (N=3819) | Male (N=3205) | t | P-value |
|--------------------------------|-----------------|---------------|---------|---------|
| RNFL thickness (µm) | | | | |
| Average | 114.43±10.96 | 112.32±10.72 | 8.120 | < 0.001 |
| Superior | 142.30±18.69 | 139.96±18.24 | 5.294 | < 0.001 |
| Nasal | 84.87±15.59 | 83.39±14.90 | 4.046 | < 0.001 |
| Inferior | 148.63±17.74 | 145.50±17.37 | 7.447 | < 0.001 |
| Temporal | 81.94±12.77 | 80.43±12.23 | 5.057 | < 0.001 |
| ONH parameters | | | | |
| Rim area (mm ²) | 1.73±0.49 | 1.63±0.46 | 8.621 | < 0.001 |
| Disc area (mm ²) | 2.41±0.51 | 2.44±0.48 | -2.244 | 0.025 |
| Average CDR (mm ²) | 0.33±0.13 | 0.34±0.14 | -5.092 | < 0.001 |
| Cup volume (mm ³) | 0.12±0.15 | 0.17±0.20 | -11.367 | < 0.001 |
| Axial length (mm) | 22.67±0.92 | 23.05±0.88 | -17.805 | < 0.001 |

Supplemental table 5. The supplementary analysis of VIF for the multivariate model

| Variables | VIF |
|------------------------|-------|
| Age | 1.584 |
| Gender | 1.815 |
| Smoking status | 1.768 |
| Body mass index | 1.050 |
| Diabetes | 1.048 |
| Coronary heart disease | 1.055 |
| Cataract extraction | 1.019 |
| Intraocular pressure | 1.031 |
| Spherical equivalent | 1.213 |
| Axial length | 1.117 |
| BCVA | 1.603 |

Supplemental table 6. Different types of OCT produced by different companies.

| OCT | Time to market | Type | Company | Country | Number of standard database eyes | Race | Proportion of Asians | Is it FDA certified |
|----------------|----------------|--------|------------|---------|----------------------------------|--|----------------------|---------------------|
| Stratus OCT | 2002 | TD-OCT | Carl Zeiss | Germany | 284 | Caucasian, Asian, African, Hispanic, Indian | 24% | Yes |
| Cirrus OCT | 2007 | SD-OCT | Carl Zeiss | Germany | 284 | Caucasian, Asian, African, Hispanic, Indian | 24% | Yes |
| Spectralis OCT | 2006 | SD-OCT | Heidelberg | Germany | 201 | Caucasian | 0% | Yes |
| Topcon 3D OCT | 2008 | SD-OCT | Topcon | Japan | 800 | Japanese | 100% | No |
| RTVue OCT | 2006 | SD-OCT | Optovue | America | 861 | Caucasian, Spanish, African, Chinese, Japanese, Indian | 47% | Yes |

Supplemental table 7. Post hoc test for comparisons of RNFL thickness parameters among the different age groups.

| Comparisons | Average RNFL thickness | | Superior RNFL thickness | | Nasal RNFL thickness | | Inferior RNFL thickness | | temporal RNFL thickness | |
|-------------------|------------------------|-------|-------------------------|----------------|----------------------|----------------|-------------------------|----------------|-------------------------|----------------|
| | <i>t</i> | SE | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> |
| ≥ 70 - <39 = 0 | -7.753 | 0.728 | -8.107 | <0.001 | 3.698 | 0.002 | -8.590 | <0.001 | -7.145 | <0.001 |
| 40-49 - <39 = 0 | 0.675 | 0.624 | 1.886 | 0.310 | 0.062 | 1.000 | 0.516 | 0.985 | -0.037 | 1.000 |
| 50-59 - <39 = 0 | -1.271 | 0.614 | -1.411 | 0.605 | -0.624 | 0.969 | -1.874 | 0.317 | -1.817 | 0.348 |
| 60-69 - <39 = 0 | -3.754 | 0.626 | -4.991 | <0.001 | -1.853 | 0.328 | -4.834 | <0.001 | -4.408 | <0.001 |
| 40-49 - ≥70 = 0 | 8.205 | 0.522 | 13.555 | <0.001 | 5.230 | <0.001 | 12.592 | <0.001 | 9.918 | <0.001 |
| 50-59 - ≥70 = 0 | 6.259 | 0.511 | 9.853 | <0.001 | 4.518 | <0.001 | 9.985 | <0.001 | 7.995 | <0.001 |
| 60-69 - ≥70 = 0 | 3.775 | 0.525 | 5.285 | <0.001 | 2.917 | 0.027 | 6.141 | <0.001 | 4.648 | <0.001 |
| 50-59 - 40-49 = 0 | -1.946 | 0.347 | -5.894 | <0.001 | -1.217 | 0.729 | -4.250 | <0.001 | -3.154 | 0.013 |
| 60-69 - 40-49 = 0 | -4.430 | 0.367 | -11.713 | <0.001 | -3.264 | 0.009 | -9.120 | <0.001 | -7.453 | <0.001 |
| 60-69 - 50-59 = 0 | -2.484 | 0.351 | -6.431 | <0.001 | -2.212 | 0.165 | -5.343 | <0.001 | -4.681 | <0.001 |

Supplemental table 8. Post hoc test for comparisons of rim area RNFL thickness among age groups

| Comparisons | Rim area | | Disc area | | Average CDR | | Cup volume | | Axial length | |
|-------------------|----------|----------------|-----------|----------------|-------------|----------------|------------|----------------|--------------|----------------|
| | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> | <i>t</i> | <i>P-value</i> |
| ≥ 70 - <39 = 0 | 0.423 | 0.993 | 3.396 | 0.006 | -0.271 | 0.999 | 0.116 | 1.000 | -3.997 | 0.001 |
| 40-49 - <39 = 0 | -0.321 | 0.998 | 0.580 | 0.977 | -0.545 | 0.981 | 1.569 | 0.501 | 0.600 | 0.973 |
| 50-59 - <39 = 0 | -0.298 | 0.998 | 1.893 | 0.306 | 0.370 | 0.996 | 1.586 | 0.490 | -2.156 | 0.185 |
| 60-69 - <39 = 0 | -0.799 | 0.927 | 2.254 | 0.150 | 0.170 | 1.000 | 1.095 | 0.799 | -3.615 | 0.003 |
| 40-49 - ≥70 = 0 | -0.973 | 0.860 | -4.041 | < 0.001 | -0.273 | 0.999 | 1.713 | 0.410 | 6.281 | <0.001 |
| 50-59 - ≥70 = 0 | -0.961 | 0.865 | -2.562 | 0.072 | 0.830 | 0.916 | 1.742 | 0.392 | 3.106 | 0.015 |
| 60-69 - ≥70 = 0 | -1.539 | 0.521 | -2.019 | 0.243 | 0.578 | 0.977 | 1.145 | 0.771 | 1.229 | 0.722 |
| 50-59 - 40-49 = 0 | 0.048 | 1.000 | 2.312 | 0.132 | 1.635 | 0.458 | -0.013 | 1.000 | -4.917 | <0.001 |
| 60-69 - 40-49 = 0 | -0.818 | 0.921 | 2.858 | 0.032 | 1.215 | 0.730 | -0.798 | 0.927 | -7.175 | <0.001 |
| 60-69 - 50-59 = 0 | -0.903 | 0.890 | 0.708 | 0.952 | -0.343 | 0.997 | -0.822 | 0.919 | -2.681 | 0.053 |