### eTable 1: UVR exposure and risk of cataracts by age-period among participants in the U.S. Radiologic Technologists study

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total** | **Cataract** | **Cataract surgery** |
| **Ambient UVR, quintilea** | **No.b** | **No.b** | **HRc (95% CI)** | **No.b** | **HRc (95% CI)** |
| Age range: 0-12 |  |  |  |  |  |
|  Q1 | 10 947 | 2325 | Reference | 920 | Reference |
|  Q2 | 11 104 | 2168 | 0.99 (0.93-1.05) | 870 | 1.01 (0.92-1.11) |
|  Q3 | 8165 | 1628 | 1.02 (0.95-1.09) | 621 | 0.99 (0.89-1.09) |
|  Q4 | 5364 | 1243 | 1.13 (1.05-1.22) | 504 | 1.16 (1.04-1.29) |
|  Q5 | 6830 | 1436 | 1.09 (1.01-1.17) | 604 | 1.18 (1.06-1.31) |
|  P for trendd |  |  | 0.001 |  | 0.003 |
| Age range: 13-19 |  |  |  |  |  |
|  Q1 | 10 854 | 2323 | Reference | 924 | Reference |
|  Q2 | 11 022 | 2138 | 0.98 (0.92-1.04) | 849 | 0.98 (0.90-1.08) |
|  Q3 | 8061 | 1589 | 1.00 (0.93-1.07) | 600 | 0.95 (0.85-1.05) |
|  Q4 | 5392 | 1244 | 1.10 (1.02-1.19) | 496 | 1.10 (0.99-1.23) |
|  Q5 | 7135 | 1506 | 1.09 (1.01-1.17) | 659 | 1.22 (1.10-1.35) |
|  P for trendd |  |  | 0.003 |  | <0.001 |
| Age range: 20-39 |  |  |  |  |  |
|  Q1 | 9781 | 2066 | Reference | 828 | Reference |
|  Q2 | 9148 | 1783 | 0.95 (0.89-1.02) | 720 | 0.93 (0.84-1.03) |
|  Q3 | 7754 | 1549 | 0.99 (0.92-1.06) | 607 | 0.97 (0.87-1.08) |
|  Q4 | 5876 | 1305 | 1.09 (1.01-1.18) | 480 | 0.99 (0.88-1.11) |
|  Q5 | 9937 | 2111 | 1.05 (0.98-1.12) | 902 | 1.12 (1.02-1.23) |
|  P for trendd |  |  | 0.003 |  | 0.013 |
| Age range: 40-64 |  |  |  |  |  |
|  Q1 | 9672 | 2014 | Reference | 817 | Reference |
|  Q2 | 8609 | 1667 | 0.97 (0.90-1.04) | 664 | 0.93 (0.84-1.03) |
|  Q3 | 7150 | 1424 | 0.98 (0.91-1.06) | 553 | 0.94 (0.84-1.04) |
|  Q4 | 6326 | 1387 | 1.07 (0.99-1.15) | 507 | 0.94 (0.84-1.05) |
|  Q5 | 10 693 | 2382 | 1.06 (1.00-1.13) | 1040 | 1.10 (1.00-1.21) |
|  P for trendd |  |  | 0.013 |  | 0.005 |
| Age range: 65+ |  |  |  |  |  |
|  Q1 | 1088 | 497 | Reference | 313 | Reference |
|  Q2 | 866 | 404 | 1.04 (0.90-1.20) | 236 | 0.93 (0.78-1.11) |
|  Q3 | 721 | 311 | 0.95 (0.82-1.11) | 187 | 0.89 (0.74-1.08) |
|  Q4 | 722 | 329 | 0.96 (0.82-1.12) | 190 | 0.86 (0.71-1.04) |
|  Q5 | 1536 | 737 | 1.09 (0.96-1.23) | 487 | 1.12 (0.96-1.30) |
|  P for trendd |  |  | 0.015 |  | 0.031 |

 |

Abbreviations: HR, hazard ratio; CI, confidence interval.

a Cutpoints are 24.2, 26.5, 31.3, 39.2 mW/m2.

b Counts may be inconsistent due to missing values.

c Adjusted for sex, birth cohort (1910-1939, 1940-1944, 1945-1949, 1950-1954, 1955-1962), years worked (<12, 12-22, 23-28, ≥29 years), race (white, non-white), education (radiologic technician program, some college or more), married/living together (yes, no), smoking (never, <10, 10-29, ≥30 pack years), weekly average alcohol consumption (none, <1, 1-6, ≥7 drinks), iris color (blue, green, hazel, light brown, dark brown), weekly strenuous exercise (none, <1, 1-3, ≥4 hours), baseline body mass index category (14-24.9, 25-29.9, 30-50 kg/m2), diabetes (yes, no), hypertension (yes, no).

d Trend tests were conducted by modeling categorical values as ordinal.

### eTable 2: Time outdoors and risk of cataracts by age period among participants in the US Radiologic Technologists study

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total** | **Cataract** | **Cataract surgery** |
| **Time outdoors, hours/day** | **No.a** | **No.a** | **HRb (95% CI)** | **No.a** | **HRb (95% CI)** |
| Age range: 0 to 12 years |  |  |  |  |  |
|  0-1.5 | 4920 | 1172 | Reference | 542 | Reference |
|  1.5-2.5 | 9571 | 1960 | 0.96 (0.89-1.04) | 784 | 0.86 (0.77-0.96) |
|  2.5-3.4 | 2009 | 416 | 0.99 (0.88-1.12) | 171 | 0.84 (0.71-1.01) |
|  ≥3.5 | 27 086 | 5488 | 1.02 (0.95-1.09) | 2138 | 0.87 (0.79-0.96) |
|  P for trendc |  |  | 0.268 |  | 0.047 |
| Age range: 13 to 19 years |  |  |  |  |  |
|  0-1.5 | 5830 | 1369 | Reference | 592 | Reference |
|  1.5-2.5 | 12 565 | 2643 | 0.99 (0.92-1.06) | 1050 | 0.93 (0.84-1.03) |
|  2.5-3.4 | 2770 | 548 | 0.95 (0.85-1.05) | 204 | 0.79 (0.67-0.93) |
|  ≥3.5 | 22 393 | 4466 | 0.97 (0.91-1.03) | 1781 | 0.90 (0.82-0.99) |
|  P for trendc |  |  | 0.689 |  | 0.042 |
| Age range: 20 to 39 years |  |  |  |  |  |
|  0-1.5 | 15 727 | 3301 | Reference | 1306 | Reference |
|  1.5-2.5 | 15 979 | 3310 | 0.92 (0.87-0.97) | 1281 | 0.89 (0.82-0.96) |
|  2.5-3.4 | 2936 | 571 | 0.93 (0.85-1.03) | 236 | 0.99 (0.86-1.14) |
|  ≥3.5 | 9046 | 1876 | 0.88 (0.82-0.93) | 812 | 0.91 (0.84-1.00) |
|  P for trendc |  |  | <0.001 |  | 0.026 |
| Age range: 40 to 64 years |  |  |  |  |  |
|  0-1.5 | 21 050 | 4233 | Reference | 1603 | Reference |
|  1.5-2.5 | 13 981 | 2966 | 0.95 (0.91-1.00) | 1199 | 0.97 (0.90-1.04) |
|  2.5-3.4 | 2196 | 473 | 1.00 (0.90-1.11) | 213 | 1.12 (0.97-1.29) |
|  ≥3.5 | 6391 | 1391 | 0.88 (0.82-0.94) | 635 | 0.94 (0.86-1.04) |
|  P for trendc |  |  | 0.003 |  | 0.164 |
| Age range: 65+ |  |  |  |  |  |
|  0-1.5 | 2509 | 1096 | Reference | 659 | Reference |
|  1.5-2.5 | 1581 | 723 | 1.03 (0.93-1.14) | 441 | 0.99 (0.87-1.12) |
|  2.5-3.4 | 206 | 92 | 0.95 (0.75-1.20) | 56 | 0.97 (0.73-1.29) |
|  ≥3.5 | 1128 | 496 | 0.99 (0.88-1.11) | 297 | 0.93 (0.80-1.08) |
|  P for trendc |  |  | 0.052 |  | 0.664 |

 |

Abbreviations: HR, hazard ratio; CI, confidence interval.

a Counts may be inconsistent due to missing values.

b Adjusted for sex, birth cohort (1910-1939, 1940-1944, 1945-1949, 1950-1954, 1955-1962), years worked (<12, 12-22, 23-28, ≥29 years), race (white, non-white), education (radiologic technician program, some college or more), cohabitation (yes, no), smoking (never, <10, 10-29, ≥30 pack-years), weekly average alcohol consumption (none, <1, 1-6, ≥7 drinks), iris color (blue, green, hazel, light brown, dark brown), weekly strenuous exercise (none, <1, 1-3, ≥4 hours), baseline body mass index category (14-24.9, 25-29.9, 30-50 kg/m2), diabetes (yes, no), hypertension (yes, no).

c Trend tests were conducted by modeling categorical values as ordinal.

### eTable 3: Risk of cataracts per quintile of ambient UVR according to selected characteristics among participants in the US Radiologic Technologists study

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total** | **Cataract** | **Cataract surgery** |
| **Characteristic** | **No.a** | **No.a** | **HRb (95% CI)** | **No.a** | **HRb (95% CI)** |
| Sex |  |  |  |  |  |
|  Male | 8975 | 1861 | 1.02 (0.98-1.05) | 842 | 1.03 (0.98-1.09) |
|  Female | 36 916 | 7538 | 1.03 (1.01-1.05) | 2984 | 1.04 (1.02-1.07) |
|  P for interaction |  |  | 0.655 |  | 0.764 |
| Age at entry |  |  |  |  |  |
|  <50 | 10 936 | 723 | 1.07 (1.01-1.13) | 174 | 1.04 (0.94-1.15) |
|  50 to 53 | 11 195 | 1370 | 1.03 (0.99-1.07) | 367 | 1.00 (0.93-1.08) |
|  54 to 57 | 10 859 | 2404 | 1.03 (1.00-1.06) | 726 | 1.06 (1.01-1.12) |
|  ≥58 | 11 901 | 4902 | 1.01 (0.99-1.04) | 2559 | 1.04 (1.01-1.07) |
|  P for interaction |  |  | 0.33 |  | 0.718 |
| Race |  |  |  |  |  |
|  White | 42 902 | 9000 | 1.03 (1.01-1.04) | 3650 | 1.04 (1.02-1.07) |
|  Black | 970 | 214 | 0.96 (0.83-1.10) | 92 | 1.00 (0.81-1.23) |
|  Asian/PI | 476 | 91 | 1.02 (0.80-1.31) | 44 | 0.96 (0.69-1.34) |
|  Other | 520 | 91 | 0.87 (0.71-1.06) | 38 | 1.42 (0.92-2.17) |
|  P for interaction |  |  | 0.27 |  | 0.682 |
| Smoking, pack-years |  |  |  |  |  |
|  Never smoker | 20 013 | 3690 | 1.02 (0.99-1.04) | 1361 | 1.02 (0.98-1.06) |
|  <10 | 3008 | 405 | 1.03 (0.96-1.11) | 113 | 1.11 (0.96-1.27) |
|  10 to 29 | 4153 | 983 | 1.01 (0.96-1.06) | 413 | 1.04 (0.97-1.12) |
|  ≥30 | 7194 | 2010 | 1.04 (1.00-1.07) | 911 | 1.04 (0.99-1.09) |
|  P for interaction |  |  | 0.561 |  | 0.784 |
| Alcohol |  |  |  |  |  |
|  <1 drink/week | 23 496 | 5127 | 1.03 (1.01-1.05) | 1995 | 1.05 (1.02-1.09) |
|  ≥1 drink/week | 21 396 | 4272 | 1.02 (1.00-1.05) | 1831 | 1.03 (1.00-1.07) |
|  P for interaction |  |  | 0.832 |  | 0.257 |
| Iris color |  |  |  |  |  |
|  Blue | 12 203 | 2468 | 1.03 (1.00-1.07) | 1015 | 1.02 (0.98-1.07) |
|  Green/Blue or Green/Grey | 8670 | 1780 | 1.02 (0.98-1.06) | 726 | 1.05 (0.99-1.10) |
|  Hazel | 6521 | 1452 | 1.06 (1.02-1.10) | 575 | 1.06 (0.99-1.12) |
|  Light Brown | 3804 | 752 | 1.02 (0.97-1.08) | 278 | 1.02 (0.93-1.11) |
|  Dark Brown | 11 621 | 2479 | 1.01 (0.98-1.04) | 1023 | 1.05 (1.00-1.10) |
|  P for interaction |  |  | 0.329 |  | 0.922 |
| Strenuous Physical Activity |  |  |  |  |  |
|  <1 hrs/week | 27 029 | 5971 | 1.03 (1.01-1.05) | 2404 | 1.05 (1.02-1.08) |
|  ≥1 hrs/week | 17 862 | 3428 | 1.02 (0.99-1.05) | 1422 | 1.03 (1.00-1.08) |
|  P for interaction |  |  | 0.542 |  | 0.551 |
| BMI |  |  |  |  |  |
|  <25 kg/m2 | 16 764 | 3262 | 1.03 (1.00-1.06) | 1325 | 1.03 (0.99-1.08) |
|  ≥25 kg/m2 | 24 775 | 5729 | 1.02 (1.00-1.05) | 2344 | 1.04 (1.00-1.08) |
|  P for interaction |  |  | 0.908 |  | 0.952 |
| Metabolic conditionsc |  |  |  |  |  |
|  No | 31 386 | 5595 | 1.03 (1.01-1.05) | 2173 | 1.03 (1.00-1.07) |
|  Yes | 13 505 | 3804 | 1.02 (1.00-1.05) | 1653 | 1.05 (1.01-1.09) |
|  P for interaction |  |  | 0.936 |  | 0.473 |
| Time outdoors lifetime average |  |  |  |  |  |
|  <2.25 hrs/day | 22 431 | 5036 | 1.03 (1.01-1.06) | 2095 | 1.04 (1.00-1.07) |
|  ≥2.25 hrs/day | 22 460 | 4363 | 1.02 (0.99-1.04) | 1731 | 1.05 (1.02-1.09) |
|  P for interaction |  |  | 0.309 |  | 0.47 |

 |

Abbreviations: HR, hazard ratio; CI, confidence interval; BMI, body mass index.

a Counts may be inconsistent due to missing values.

b Adjusted for sex, birth cohort (1910-1939, 1940-1944, 1945-1949, 1950-1954, 1955-1962), years worked (<12, 12-22, 23-28, ≥29 years), race (white, non-white), education (radiologic technician program, some college or more), cohabitation (yes, no), smoking (never, <10, 10-29, ≥30 pack-years), weekly average alcohol consumption (none, <1, 1-6, ≥7 drinks), iris color (blue, green, hazel, light brown, dark brown), weekly strenuous exercise (none, <1, 1-3, ≥4 hours), baseline body mass index category (14-24.9, 25-29.9, 30-50 kg/m2), diabetes (yes, no), hypertension (yes, no).

c Metabolic conditions include diabetes, hypertension, heart disease, and cerebrovascular disease.