**Appendix 2.**

Normal limits for intervals and axes using 2.5th and 97.5th percentiles

Dutch

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 years | Female <40 years | Male >= 40 years | Female >= 40 years |
| n | 522 | 735 | 587 | 878 |
| Heart rate per minute (SD) | 578 (9.4) | 59 (9.4) | 58 (9.7) | 61 (8.9) |
| Heart rate per minute (2.5th-97.5th) | 42 - 79 | 43 - 79 | 43 - 81 | 46 - 80 |
| P-wave duration (ms) (SD) | 111 (10.5) | 104 (10.0) | 117 (10.5) | 109 (10.1) |
| P-wave duration (ms) (2.5th-97.5th) | 90 - 132 | 87 - 124 | 98 - 138 | 90 - 128 |
| PR-interval (ms) (SD) | 159 (22.3) | 151 (21.1) | 166 (22.4) | 157 (22.4) |
| PR-interval (ms) (2.5th-97.5th) | 122 - 206 | 116 - 199 | 126 - 214 | 120 - 206 |
| QRS-duration (ms) (SD) | 101 (7.8) | 92 (7.6) | 100 (7.9) | 92 (8.2) |
| QRS-duration (ms) (2.5th-97.5th) | 86 - 116 | 78 - 107 | 84 - 114 | 78 - 108 |
| QT-interval (ms) (SD) | 415 (27.6) | 420 (28.6) | 420 (27.7) | 422 (27.1) |
| QT-interval (ms) (2.5th-97.5th) | 362 - 468 | 367 - 481 | 364 - 479 | 370 - 478 |
| QTc Bazett (ms) (SD) | 404 (21.2) | 414 (20.2) | 411 (20.2) | 422 (19.3) |
| QTc Bazett (ms) (2.5th-97.5th) | 363 - 445 | 371 - 456 | 373 - 449 | 386 - 461 |
| Frontal P-wave axis (degrees) (SD) | 47 (22.1) | 42 (23.7) | 52 (22.2) | 49 (22.8) |
| Frontal P-wave axis (degrees) (2.5th-97.5th) | -7 - 78 | -12 - 75 | -1 - 79 | -7 - 79 |
| Frontal QRS-wave axis (degrees) | 53 (32.2) | 56 (25.7) | 39 (35.4) | 44 (30.2) |
| Frontal QRS-wave axis (degrees) (2.5th-97.5th) | -22 - 96 | -8.35 - 91 | -34 - 90 | -23 - 86 |
| Frontal T-wave axis (degrees) (SD) | 46 (16.9) | 42 (15.6) | 42 (18.5) | 45 (17.8) |
| Frontal T-wave axis (degrees) (2.5th-97.5th) | 10 - 73 | 9 - 67 | 4 - 73 | 5 - 73 |
| Ventricular Gradient (mV·ms) (SD) | 122 (36.4) | 97 (29.4) | 102 (36.3) | 81 (27.6) |
| Ventricular Gradient (mV·ms) (2.5th-97.5th) | 61 - 203 | 49 - 167 | 43 - 183 | 34 - 142 |
| Spatial QRS-T angle (degrees) (SD) | 46 (23.3) | 39 (18.6) | 51 (23.0) | 47(21.5) |
| Spatial QRS-T angle (degrees) (2.5th-97.5th) | 11 - 103 | 10 - 82 | 14 - 103 | 13 - 97 |
| Sum absolute QRS-T integral (mV.ms) (SD) | 208 (61.7) | 164 (49.8) | 173 (61.1) | 136 (46.5) |
| Sum absolute QRS-T integral (mV.ms) (2,5th-97,5th) | 105 - 347 | 83 - 279 | 71 - 308 | 58 - 238 |

South Asian Surinamese

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 years | Female <40 years | Male >= 40 years | Female >= 40 years |
| n | 334 | 407 | 261 | 393 |
| Heart rate per minute (SD) | 61 (9.7) | 66 (9.6) | 62 (8.6) | 65 (9.2) |
| Heart rate per minute (2.5th-97.5th) | 44 - 83 | 50 - 86 | 46 - 78 | 48 - 86 |
| P-wave duration (ms) (SD) | 106 (11.0) | 102 (9.0) | 113 (9.7) | 105 (9.7) |
| P-wave duration (ms) (2.5th-97.5th) | 90 - 127 | 86 - 120 | 94 - 132 | 90 - 124 |
| PR-interval (ms) (SD) | 153 (20.5) | 143 (17.4) | 160 (20.4) | 150 (20.4) |
| PR-interval (ms) (2.5th-97.5th) | 120 - 197 | 110 - 180 | 130 - 207 | 118 - 192 |
| QRS-duration (ms) (SD) | 96 (7.6) | 86 (7.2) | 94 (8.0) | 86 (7.9) |
| QRS-duration (ms) (2.5th-97.5th) | 80 - 112 | 74 - 102 | 78 - 108 | 72 - 102 |
| QT-interval (ms) (SD) | 400 (28) | 402 (26.7) | 405 (24.8) | 411 (27.3) |
| QT-interval (ms) (2.5th-97.5th) | 351 - 455 | 354 - 452 | 361 - 459 | 364 - 470 |
| QTc Bazett (ms) (SD) | 400 (20.6) | 418 (20.3) | 407 (19.4) | 423 (20.6) |
| QTc Bazett (ms) (2.5th-97.5th) | 365 - 441 | 380 - 459 | 372 - 449 | 385 - 462 |
| Frontal P-wave axis (degrees) (SD) | 45 (20.9) | 44 (21.0) | 49 (19.2) | 47 (18.9) |
| Frontal P-wave axis (degrees) (2.5th-97.5th) | -4.7 - 78 | 0 - 76 | 7 - 77 | 7.8 - 74.2 |
| Frontal QRS-wave axis (degrees) | 54 (28.4) | 52 (23.3) | 36 (31.2) | 38 (26.6) |
| Frontal QRS-wave axis (degrees) (2.5th-97.5th) | -20 - 92 | 0 - 86 | -35 - 89 | -16 - 83 |
| Frontal T-wave axis (degrees) (SD) | 40 (18.6) | 36 (16.3) | 35 (19.8) | 34 (18.3) |
| Frontal T-wave axis (degrees) (2.5th-97.5th) | 7 - 72 | 4 - 63 | -3 - 69 | -4 - 67 |
| Ventricular Gradient (mV·ms) (SD) | 108 (30.1) | 87 (27.5) | 89 (32.0) | 73 (25.4) |
| Ventricular Gradient (mV·ms) (2.5th-97.5th) | 57 - 170 | 39 - 149 | 39 - 164 | 30 - 121 |
| Spatial QRS-T angle (degrees) (SD) | 44 (20.9) | 33 (16.9) | 50 (23.0) | 40 (20.1) |
| Spatial QRS-T angle (degrees) (2.5th-97.5th) | 11 - 93 | 9 - 69 | 11 - 104 | 10 - 86 |
| Sum absolute QRS-T integral (mV.ms) (SD) | 183 (51.2) | 146 (46.5) | 151 (54.0) | 122 (42.7) |
| Sum absolute QRS-T integral (mV.ms) (2,5th-97,5th) | 97 – 290 | 67 – 251 | 66 – 279 | 51 – 200 |

African Surinamese

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 276 | 474 | 368 | 595 |
| Heart rate per minute (SD) | 59 (8.8) | 64 (9.4) | 61 (8.9) | 64 (8.6) |
| Heart rate per minute (2.5th-97.5th) | 45 – 77 | 48 – 85 | 46 – 83 | 48 – 82 |
| P-wave duration (ms) (SD) | 112 (11.7) | 107 (9.2) | 116 (10.3) | 112 (9.7) |
| P-wave duration (ms) (2.5th-97.5th) | 92 – 136 | 90 – 124 | 94 – 138 | 94 – 132 |
| PR-interval (ms) (SD) | 166 (24.8) | 154 (20.3) | 169 (24.5) | 161 (21.1) |
| PR-interval (ms) (2.5th-97.5th) | 128 – 222 | 118 – 196 | 130 – 230 | 124 – 208 |
| QRS-duration (ms) (SD) | 97 (8.1) | 86 (7.6) | 94 (8.4) | 86 (8.0) |
| QRS-duration (ms) (2.5th-97.5th) | 80 – 112 | 74 – 104 | 80 – 110 | 74 – 102 |
| QT-interval (ms) (SD) | 400 (26.9) | 398 (24.6) | 402 (26.4) | 406 (26.9) |
| QT-interval (ms) (2.5th-97.5th) | 346 – 454 | 352 – 448 | 356 – 458 | 360 – 465 |
| QTc Bazett (ms) (SD) | 393 (20.1) | 410 (20.1) | 402 (19.5) | 417 (19.4) |
| QTc Bazett (ms) (2.5th-97.5th) | 355 – 431 | 372 – 452 | 366 – 442 | 381 – 458 |
| Frontal P-wave axis (degrees) (SD) | 49 (25.0) | 42 (24.1) | 55 (19.5) | 49 (20.5) |
| Frontal P-wave axis (degrees) (2.5th-97.5th) | -16 – 81 | -19 – 77 | 5 – 80 | 1 – 78 |
| Frontal QRS-wave axis (degrees) | 52 (28.5) | 49 (22.9) | 37 (34.8) | 33 (28.1) |
| Frontal QRS-wave axis (degrees) (2.5th-97.5th) | -19 – 90 | -5 – 83 | -47 – 88 | -26 – 76 |
| Frontal T-wave axis (degrees) (SD) | 39 (18.2) | 37 (16.2) | 37 (22.0) | 33 (20.0) |
| Frontal T-wave axis (degrees) (2.5th-97.5th) | 0 – 68 | 4 – 64 | -6 – 74 | -9 – 70 |
| Ventricular Gradient (mV·ms) (SD) | 118 (39.4) | 92 (26.1) | 95 (36.6) | 78 (26.8) |
| Ventricular Gradient (mV·ms) (2.5th-97.5th) | 61 – 209 | 48 – 147 | 33 – 181 | 31 – 133 |
| Spatial QRS-T angle (degrees) (SD) | 41 (21.2) | 31 (17.0) | 51 (25.1) | 41 (21.9) |
| Spatial QRS-T angle (degrees) (2.5th-97.5th) | 9 – 91 | 5 – 70 | 12 – 110 | 8 – 89 |
| Sum absolute QRS-T integral (mV.ms) (SD) | 200 (67.0) | 154 (44.1) | 162 (61.6) | 131 (45.2) |
| Sum absolute QRS-T integral (mV.ms) (2,5th-97,5th) | 103 – 360 | 81 – 246 | 63 – 312 | 57 – 226 |

Ghanaian

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 years | Female <40 years | Male >= 40 years | Female >= 40 years |
| n | 127 | 313 | 170 | 285 |
| Heart rate per minute (SD) | 60 (8.4) | 66 (9.1) | 61 (7.9) | 64 (8.9) |
| Heart rate per minute (2.5th-97.5th) | 46 – 78 | 50 – 84 | 47 – 78 | 46 – 85 |
| P-wave duration (ms) (SD) | 114 (10.5) | 109 (10.6) | 116 (8.8) | 113 (8.8) |
| P-wave duration (ms) (2.5th-97.5th) | 98 – 131 | 90 – 128 | 98.45 – 134 | 96 – 130 |
| PR-interval (ms) (SD) | 168 (21.6) | 159 (21.0) | 172 (21.9) | 166 (23.4) |
| PR-interval (ms) (2.5th-97.5th) | 133 – 221 | 124 – 205 | 133 – 218 | 130 – 221 |
| QRS-duration (ms) (SD) | 96 (8.1) | 85 (7.6) | 92 (8.0) | 85 (7.0) |
| QRS-duration (ms) (2.5th-97.5th) | 82 – 112 | 72 – 102 | 78 – 108 | 72 – 98 |
| QT-interval (ms) (SD) | 389 (22.6) | 387 (24.3) | 385 (23.9) | 396 (25.0) |
| QT-interval (ms) (2.5th-97.5th) | 345 – 434 | 344 – 443 | 341 – 436 | 352 – 453 |
| QTc Bazett (ms) (SD) | 386 (18.9) | 402 (19.2) | 387 (17.8) | 405 (19.5) |
| QTc Bazett (ms) (2.5th-97.5th) | 354 – 424 | 367 – 441 | 354 – 419 | 366 – 444 |
| Frontal P-wave axis (degrees) (SD) | 48 (23.5) | 44 (24.2) | 52.1 (21.9) | 48 (20.7) |
| Frontal P-wave axis (degrees) (2.5th-97.5th) | -10 – 79 | -9 – 77 | 0 – 82 | -4 – 75 |
| Frontal QRS-wave axis (degrees) | 52 (26.4) | 50 (21.7) | 39 (33.7) | 38 (23.2) |
| Frontal QRS-wave axis (degrees) (2.5th-97.5th) | -14 – 92 | 3 – 79 | -40 – 80 | -8 – 78 |
| Frontal T-wave axis (degrees) (SD) | 38 (17.7) | 38 (17.3) | 34 (19.2) | 32 (18.4) |
| Frontal T-wave axis (degrees) (2.5th-97.5th) | 4 – 66 | 0 – 66 | -8 – 65 | -7 – 62 |
| Ventricular Gradient (mV·ms) (SD) | 119 (36.4) | 95 (26.8) | 98 (34.4) | 86 (26.1) |
| Ventricular Gradient (mV·ms) (2.5th-97.5th) | 60 – 192 | 51 – 147 | 39 – 174 | 38 – 141 |
| Spatial QRS-T angle (degrees) (SD) | 40 (19.8) | 30.3 (16.4) | 51 (24.1) | 38 (19.6) |
| Spatial QRS-T angle (degrees) (2.5th-97.5th) | 7 – 81 | 7 – 69 | 12 – 101 | 8 – 81 |
| Sum absolute QRS-T integral (mV.ms) (SD) | 201 (62.1) | 159 (45.0) | 167 (58.0) | 144 (43.6) |
| Sum absolute QRS-T integral (mV.ms) (2,5th-97,5th) | 101 - 324 | 86 - 249 | 71 - 297 | 71 - 235 |

Turkish

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 513 | 735 | 381 | 445 |
| Heart rate per minute (SD) | 61 (9.2) | 65 (8.8) | 62 (8.6) | 64 (8.0) |
| Heart rate per minute (2.5th-97.5th) | 45 - 79 | 50 - 85 | 46 - 80 | 50 - 80 |
| P-wave duration (ms) (SD) | 110 (10.2) | 103 (9.4) | 113 (10.4) | 107 (9.3) |
| P-wave duration (ms) (2.5th-97.5th) | 90 - 128 | 90 - 128 | 94 - 136 | 90 - 124 |
| PR-interval (ms) (SD) | 155 (21.0) | 147 (19.2) | 161 (22.3) | 153 (19.6) |
| PR-interval (ms) (2.5th-97.5th) | 119.6 - 204 | 118 - 188 | 128 - 206 | 120 - 192 |
| QRS-duration (ms) (SD) | 99 (8.1) | 89 (7.9) | 97 (7.9) | 89 (7.7) |
| QRS-duration (ms) (2.5th-97.5th) | 82 - 114 | 74.7 - 106 | 82 - 112 | 74 - 104 |
| QT-interval (ms) (SD) | 402 (26.6) | 404 (25.2) | 409 (27.4) | 413 (25.3) |
| QT-interval (ms) (2.5th-97.5th) | 356 - 458 | 356 - 452 | 362 - 466 | 368 - 468 |
| QTc Bazett (ms) (SD) | 404 (19.6) | 418 (18.9) | 413 (19.0) | 425 (19.5) |
| QTc Bazett (ms) (2.5th-97.5th) | 368 - 442 | 382 - 456 | 379 - 452 | 386 - 465 |
| Frontal P-wave axis (degrees) (SD) | 45 (23.8) | 43 (21.4) | 48 (21.0) | 43 (21.0) |
| Frontal P-wave axis (degrees) (2.5th-97.5th) | -13 - 77 | -4 - 76 | -2.5 - 80 | -3 - 74 |
| Frontal QRS-wave axis (degrees) | 50 (32.2) | 51 (25.9) | 30 (35.1) | 34 (29.3) |
| Frontal QRS-wave axis (degrees) (2.5th-97.5th) | -28 - 94 | -7 - 88 | -51 - 85 | -22 - 86 |
| Frontal T-wave axis (degrees) (SD) | 41 (18.4) | 40 (17.0) | 37 (18.7) | 35 (17.3) |
| Frontal T-wave axis (degrees) (2.5th-97.5th) | 4 - 72 | 3 - 67 | 3 - 71 | 0 - 66 |
| Ventricular Gradient (mV·ms) (SD) | 106 (34.4) | 83 (25.1) | 83 (27.2) | 70 (21.9) |
| Ventricular Gradient (mV·ms) (2.5th-97.5th) | 42 - 176 | 41 - 134 | 33 - 144 | 30 - 116 |
| Spatial QRS-T angle (degrees) (SD) | 49 (22.0) | 36 (17.0) | 53 (26.1) | 43 (21.4) |
| Spatial QRS-T angle (degrees) (2.5th-97.5th) | 11 - 98 | 10 - 74 | 12 - 120 | 10 - 90 |
| Sum absolute QRS-T integral (mV.ms) (SD) | 179 (57.8) | 140 (42.5) | 141 (46.0) | 118 (37.0) |
| Sum absolute QRS-T integral (mV.ms) (2,5th-97,5th) | 72 - 300 | 68 - 228 | 61 - 242 | 49 - 197 |

Moroccan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 495 | 1032 | 369 | 581 |
| Heart rate per minute (SD) | 59 (8.9) | 65 (9.0) | 60 (8.1) | 65 (8.4) |
| Heart rate per minute (2.5th-97.5th) | 45 - 80 | 49 - 83 | 47 - 76 | 49 - 82 |
| P-wave duration (ms) (SD) | 112 (10.7) | 105 (9.9) | 117 (10.8) | 110 (10.0) |
| P-wave duration (ms) (2.5th-97.5th) | 92 - 134 | 88 - 124 | 96 - 136 | 90 - 129 |
| PR-interval (ms) (SD) | 161 (22.9) | 152 (20.3) | 168 (22.5) | 158 (20.6) |
| PR-interval (ms) (2.5th-97.5th) | 124 - 211 | 116 - 196 | 128 - 216 | 122 - 203 |
| QRS-duration (ms) (SD) | 98 (8.2) | 88 (7.7) | 96.7 (8.5) | 89 (7.9) |
| QRS-duration (ms) (2.5th-97.5th) | 81 - 114 | 74 - 104 | 82 - 114 | 76 - 106 |
| QT-interval (ms) (SD) | 403 (25.8) | 401 (24.2) | 407 (25.2) | 409 (24.6) |
| QT-interval (ms) (2.5th-97.5th) | 352 - 453 | 356 - 450 | 359 - 464 | 366 - 460 |
| QTc Bazett (ms) (SD) | 398 (20.3) | 415 (19.8) | 405 (18.1) | 422 (18.1) |
| QTc Bazett (ms) (2.5th-97.5th) | 360 - 438 | 376 - 455 | 375 - 441 | 387 - 460 |
| Frontal P-wave axis (degrees) (SD) | 47 (22.3) | 43 (20.9) | 50 (19.1) | 46 (19.4) |
| Frontal P-wave axis (degrees) (2.5th-97.5th) | -3 - 78 | -3 - 74 | 5 - 80 | 1 - 75 |
| Frontal QRS-wave axis (degrees) | 47 (30.7) | 48 (24.8) | 32 (33.5) | 32 (26.5) |
| Frontal QRS-wave axis (degrees) (2.5th-97.5th) | -27 - 91 | -6.22 - 85 | -42 - 87 | -25 - 77 |
| Frontal T-wave axis (degrees) (SD) | 41 (17.9) | 41 (15.2) | 38 (18.5) | 38 (17.8) |
| Frontal T-wave axis (degrees) (2.5th-97.5th) | 7 - 71 | 9 - 67 | 1 - 70 | 1.5 - 71 |
| Ventricular Gradient (mV·ms) (SD) | 114 (34.9) | 90 (26.4) | 96 (32.7) | 78 (23.5) |
| Ventricular Gradient (mV·ms) (2.5th-97.5th) | 60 - 190 | 45 - 149 | 43 - 178 | 38 - 129 |
| Spatial QRS-T angle (degrees) (SD) | 42 (20.7) | 33 (17.4) | 46 (24.1) | 39 (20.4) |
| Spatial QRS-T angle (degrees) (2.5th-97.5th) | 8 - 92 | 7 - 73 | 9 - 105 | 8 - 87 |
| Sum absolute QRS-T integral (mV.ms) (SD) | 194 (59.0) | 151 (44.5) | 164 (55.2) | 132 (39.3) |
| Sum absolute QRS-T integral (mV.ms) (2,5th-97,5th) | 103 - 326 | 75 - 251 | 75 - 301 | 67 - 217 |

Normal limits for QRS-complex amplitudes using 2.5th and 97.5th percentiles

Dutch

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 522 | 735 | 587 | 878 |
| Max QRS amplitude lead I (mean(SD)) | 580.81 (252.64) | 503.80 (215.13) | 635.39 (260.09) | 562.29 (238.47) |
| Max QRS amplitude lead I (2.5th-97.5th) | 171.2 - 1171.92 | 154.7 - 980.25 | 228.95 - 1201.35 | 205.93 - 1110.82 |
| Min QRS amplitude lead I (mean(SD)) | -133.80 (107.01) | -93.20 (90.25) | -100.26 (81.59) | -68.28 (71.55) |
| Min QRS amplitude lead I (2.5th-97.5th) | -380.7 - 0 | -307.3 - 0 | -289.05 - 0 | -238.15 - 0 |
| Max QRS amplitude lead II (mean(SD)) | 1085.32 (351.72) | 1043.60 (325.71) | 859.95 (347.19) | 862.33 (291.31) |
| Max QRS amplitude lead II (2.5th-97.5th) | 492.12 - 1858.6 | 480 - 1742.15 | 277.4 - 1594.5 | 389 - 1524.22 |
| Min QRS amplitude lead II (mean(SD)) | -151.55 (127.80) | -113.98 (99.63) | -123.87 (116.96) | -108.53 (102.44) |
| Min QRS amplitude lead II (2.5th-97.5th) | -461 - 0 | -369.05 - 0 | -397.35 - 0 | -373.12 - 0 |
| Max QRS amplitude lead III (mean(SD)) | 652.12 (407.38) | 654.99 (378.40) | 439.56 (340.77) | 440.56 (310.00) |
| Max QRS amplitude lead III (2.5th-97.5th) | 106.15 - 1583.72 | 85.35 - 1521.7 | 45.3 - 1242.15 | 44.85 - 1164.22 |
| Min QRS amplitude lead III (mean(SD)) | -179.34 (164.25) | -139.51 (134.95) | -235.48 (235.26) | -175.93 (180.71) |
| Min QRS amplitude lead III (2.5th-97.5th) | -600.9 - 0 | -508.65 - 0 | -861.35 - 0 | -695.75 - 0 |
| Max QRS amplitude lead aVR (mean(SD)) | 112.46 (89.93) | 74.59 (74.50) | 82.44 (75.28) | 63.93 (64.86) |
| Max QRS amplitude lead aVR (2.5th-97.5th) | 0 - 312.72 | 0 - 247.65 | 0 - 246.7 | 0 - 219.22 |
| Min QRS amplitude lead aVR (mean(SD)) | -804.92 (210.45) | -745.25 (199.50) | -725.25 (205.26) | -692.21 (191.92) |
| Min QRS amplitude lead aVR (2.5th-97.5th) | -1254.95 - -417.08 | -1149.8 - -387.75 | -1160.05 - -356.55 | -1112.45 - -369.93 |
| Max QRS amplitude lead aVL (mean(SD)) | 244.17 (204.65) | 190.01 (160.91) | 338.60 (260.32) | 258.76 (214.26) |
| Max QRS amplitude lead aVL (2.5th-97.5th) | 0 - 729.82 | 0 - 628.3 | 0 - 952.15 | 0 - 770.37 |
| Min QRS amplitude lead aVL (mean(SD)) | -261.22 (200.44) | -239.51 (193.40) | -176.31 (149.93) | -150.38 (141.74) |
| Min QRS amplitude lead aVL (2.5th-97.5th) | -772.8 - 0 | -717.75 - 0 | -571.9 - 0 | -524.6 - 0 |
| Max QRS amplitude lead aVF (mean(SD)) | 841.79 (382.14) | 833.03 (348.30) | 598.96 (362.49) | 620.27 (307.01) |
| Max QRS amplitude lead aVF (2.5th-97.5th) | 235.07 - 1678.97 | 233.05 - 1589.5 | 91.9 - 1382.4 | 135.33 - 1299.3 |
| Min QRS amplitude lead aVF (mean(SD)) | -138.32 (126.84) | -108.47 (100.95) | -131.87 (143.82) | -113.71 (117.31) |
| Min QRS amplitude lead aVF (2.5th-97.5th) | -467.98 - 0 | -345.3 - 0 | -542.35 - 0 | -416.6 - 0 |
| Max QRS amplitude lead V1 (mean(SD)) | 263.31 (154.73) | 185.24 (126.25) | 196.39 (126.36) | 155.22 (100.63) |
| Max QRS amplitude lead V1 (2.5th-97.5th) | 45.15 - 595.65 | 0 - 471.3 | 0 - 500.8 | 0 - 416 |
| Min QRS amplitude lead V1 (mean(SD)) | -876.96 (341.88) | -810.27 (310.27) | -749.63 (306.04) | -743.13 (276.54) |
| Min QRS amplitude lead V1 (2.5th-97.5th) | -1601.47 - -271.08 | -1485.25 - -324.4 | -1426.5 - -217 | -1337.75 - -290.85 |
| Max QRS amplitude lead V2 (mean(SD)) | 684.52 (378.06) | 490.00 (273.34) | 596.22 (359.76) | 423.55 (273.48) |
| Max QRS amplitude lead V2 (2.5th-97.5th) | 147 - 1610.72 | 117.05 - 1167.95 | 101 - 1430.05 | 75 - 1121.3 |
| Min QRS amplitude lead V2 (mean(SD)) | -1489.48 (561.67) | -1192.15 (464.40) | -1156.10 (457.67) | -985.64 (409.35) |
| Min QRS amplitude lead V2 (2.5th-97.5th) | -2792.55 - -561.13 | -2191.3 - -368.8 | -2057.65 - -411.95 | -1951 - -337.7 |
| Max QRS amplitude lead V3 (mean(SD)) | 1136.22 (580.74) | 809.66 (424.91) | 1055.25 (523.81) | 772.88 (421.42) |
| Max QRS amplitude lead V3 (2.5th-97.5th) | 308 - 2596.9 | 186.8 - 1790.65 | 265.55 - 2269.05 | 171.93 - 1705.95 |
| Min QRS amplitude lead V3 (mean(SD)) | -1067.17 (560.16) | -730.01 (460.70) | -952.13 (492.34) | -704.26 (390.01) |
| Min QRS amplitude lead V3 (2.5th-97.5th) | -2312.75 - -166.18 | -1886.25 - 0 | -2086.75 - -157.6 | -1631.67 - -86.63 |
| Max QRS amplitude lead V4 (mean(SD)) | 1937.00 (721.66) | 1358.58 (480.03) | 1672.86 (574.17) | 1275.80 (483.19) |
| Max QRS amplitude lead V4 (2.5th-97.5th) | 714.38 - 3577.2 | 549.4 - 2408.3 | 654.7 - 3050.6 | 421.18 - 2325.07 |
| Min QRS amplitude lead V4 (mean(SD)) | -535.26 (348.68) | -319.48 (248.13) | -533.32 (335.44) | -352.10 (246.95) |
| Min QRS amplitude lead V4 (2.5th-97.5th) | -1362.28 - 0 | -968.7 - 0 | -1366.1 - 0 | -937.22 - 0 |
| Max QRS amplitude lead V5 (mean(SD)) | 1735.85 (547.64) | 1305.46 (385.07) | 1571.27 (496.36) | 1226.70 (383.79) |
| Max QRS amplitude lead V5 (2.5th-97.5th) | 825.05 - 2950.52 | 648.35 - 2149.9 | 742.9 - 2703.3 | 593.1 - 2119.6 |
| Min QRS amplitude lead V5 (mean(SD)) | -210.56 (161.47) | -141.65 (110.10) | -214.35 (166.23) | -148.68 (124.60) |
| Min QRS amplitude lead V5 (2.5th-97.5th) | -577.95 - 0 | -431.85 - 0 | -651.1 - 0 | -460.9 - 0 |
| Max QRS amplitude lead V6 (mean(SD)) | 1208.21 (405.79) | 1042.04 (311.20) | 1110.55 (400.56) | 960.83 (301.33) |
| Max QRS amplitude lead V6 (2.5th-97.5th) | 581.12 - 2146.42 | 548.4 - 1764.95 | 465.95 - 2021.15 | 491.85 - 1632.8 |
| Min QRS amplitude lead V6 (mean(SD)) | -120.39 (96.17) | -85.79 (61.42) | -101.70 (79.73) | -79.97 (67.78) |
| Min QRS amplitude lead V6 (2.5th-97.5th) | -297.75 - 0 | -219.95 - 0 | -286 - 0 | -248.07 - 0 |

South Asian Surinamese

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 513 | 735 | 381 | 445 |
| Max QRS amplitude lead I (mean(SD)) | 622.76 (265.28) | 566.49 (246.45) | 665.81 (248.18) | 676.60 (254.90) |
| Max QRS amplitude lead I (2.5th-97.5th) | 193.4 - 1185.4 | 182.35 - 1135.65 | 273 - 1242.5 | 245.7 - 1213.5 |
| Min QRS amplitude lead I (mean(SD)) | -144.12 (111.54) | -84.93 (80.21) | -100.57 (77.68) | -84.06 (72.89) |
| Min QRS amplitude lead I (2.5th-97.5th) | -423.6 - 0 | -265 - 0 | -303.5 - 0 | -262.3 - 0 |
| Max QRS amplitude lead II (mean(SD)) | 1044.45 (390.34) | 970.97 (293.02) | 717.77 (274.85) | 768.04 (266.34) |
| Max QRS amplitude lead II (2.5th-97.5th) | 425 - 1916 | 464.05 - 1602.95 | 242 - 1312.5 | 314.3 - 1369.7 |
| Min QRS amplitude lead II (mean(SD)) | -129.51 (110.86) | -92.93 (83.76) | -107.81 (112.08) | -81.05 (78.42) |
| Min QRS amplitude lead II (2.5th-97.5th) | -429.6 - 0 | -280.65 - 0 | -403 - 0 | -257.4 - 0 |
| Max QRS amplitude lead III (mean(SD)) | 615.74 (440.86) | 535.21 (325.31) | 311.78 (244.35) | 325.14 (241.21) |
| Max QRS amplitude lead III (2.5th-97.5th) | 74.2 - 1648.4 | 62.35 - 1245.65 | 37 - 945 | 0 - 907.2 |
| Min QRS amplitude lead III (mean(SD)) | -190.79 (173.87) | -142.60 (141.58) | -268.80 (238.31) | -217.68 (194.53) |
| Min QRS amplitude lead III (2.5th-97.5th) | -615.2 - 0 | -524.2 - 0 | -809.5 - 0 | -662.3 - 0 |
| Max QRS amplitude lead aVR (mean(SD)) | 101.78 (88.81) | 62.25 (64.41) | 76.77 (72.23) | 55.51 (56.65) |
| Max QRS amplitude lead aVR (2.5th-97.5th) | 0 - 314.4 | 0 - 215.9 | 0 - 272.5 | 0 - 191.6 |
| Min QRS amplitude lead aVR (mean(SD)) | -804.30 (220.50) | -746.12 (197.05) | -671.47 (186.23) | -704.59 (199.42) |
| Min QRS amplitude lead aVR (2.5th-97.5th) | -1288.4 - -422 | -1155.65 - -424 | -1079.5 - -345 | -1119 - -348.2 |
| Max QRS amplitude lead aVL (mean(SD)) | 291.36 (226.97) | 233.70 (201.21) | 401.23 (250.54) | 372.04 (233.42) |
| Max QRS amplitude lead aVL (2.5th-97.5th) | 0 - 859 | 0 - 774.3 | 39.5 - 974 | 51.2 - 893.3 |
| Min QRS amplitude lead aVL (mean(SD)) | -265.18 (215.46) | -187.16 (152.71) | -148.61 (116.60) | -138.44 (116.54) |
| Min QRS amplitude lead aVL (2.5th-97.5th) | -822.2 - 0 | -565.25 - 0 | -461 - 0 | -446.9 - 0 |
| Max QRS amplitude lead aVF (mean(SD)) | 788.23 (427.63) | 725.46 (313.54) | 447.44 (271.09) | 482.25 (266.37) |
| Max QRS amplitude lead aVF (2.5th-97.5th) | 146.4 - 1771.2 | 156 - 1390.95 | 53.5 - 1107.5 | 78 - 1064.1 |
| Min QRS amplitude lead aVF (mean(SD)) | -119.35 (104.51) | -92.97 (86.31) | -124.43 (137.43) | -94.69 (98.29) |
| Min QRS amplitude lead aVF (2.5th-97.5th) | -378.4 - 0 | -295.9 - 0 | -502 - 0 | -348.7 - 0 |
| Max QRS amplitude lead V1 (mean(SD)) | 279.75 (165.85) | 187.11 (113.79) | 201.81 (119.67) | 167.76 (109.51) |
| Max QRS amplitude lead V1 (2.5th-97.5th) | 57.4 - 710.4 | 0 - 448.6 | 30.5 - 468.5 | 0 - 401 |
| Min QRS amplitude lead V1 (mean(SD)) | -889.80 (360.62) | -773.55 (282.75) | -702.48 (290.01) | -695.26 (235.81) |
| Min QRS amplitude lead V1 (2.5th-97.5th) | -1696.4 - -305 | -1406.55 - -305.4 | -1373 - -234.5 | -1178.3 - -292.1 |
| Max QRS amplitude lead V2 (mean(SD)) | 724.73 (334.99) | 497.53 (243.86) | 672.35 (346.16) | 501.97 (252.78) |
| Max QRS amplitude lead V2 (2.5th-97.5th) | 227.8 - 1513.4 | 133.05 - 1024.65 | 133.5 - 1437.5 | 134 - 1118.6 |
| Min QRS amplitude lead V2 (mean(SD)) | -1440.63 (542.41) | -980.60 (395.49) | -1043.98 (454.33) | -867.08 (324.74) |
| Min QRS amplitude lead V2 (2.5th-97.5th) | -2651 - -471.8 | -1857.6 - -294.8 | -2002 - -328 | -1588.3 - -269.7 |
| Max QRS amplitude lead V3 (mean(SD)) | 1091.67 (460.87) | 801.18 (406.73) | 1104.05 (480.59) | 733.18 (349.64) |
| Max QRS amplitude lead V3 (2.5th-97.5th) | 373.6 - 2056 | 227.4 - 1789.8 | 312.5 - 2141 | 210.6 - 1466.6 |
| Min QRS amplitude lead V3 (mean(SD)) | -974.23 (511.86) | -581.44 (357.19) | -849.49 (426.65) | -623.55 (298.27) |
| Min QRS amplitude lead V3 (2.5th-97.5th) | -2193 - -98.8 | -1311.3 - 0 | -1900 - -174 | -1278 - -128 |
| Max QRS amplitude lead V4 (mean(SD)) | 1651.74 (574.65) | 1233.45 (432.78) | 1504.06 (517.53) | 1094.00 (401.21) |
| Max QRS amplitude lead V4 (2.5th-97.5th) | 648.6 - 2908.4 | 454.5 - 2210.6 | 600 - 2577 | 421.1 - 1993.1 |
| Min QRS amplitude lead V4 (mean(SD)) | -510.51 (321.45) | -271.72 (217.64) | -510.25 (319.98) | -338.97 (223.81) |
| Min QRS amplitude lead V4 (2.5th-97.5th) | -1249.8 - 0 | -816.3 - 0 | -1284.5 - 0 | -885.1 - 0 |
| Max QRS amplitude lead V5 (mean(SD)) | 1512.60 (452.28) | 1171.73 (319.30) | 1330.67 (402.22) | 1112.24 (327.91) |
| Max QRS amplitude lead V5 (2.5th-97.5th) | 772.4 - 2514.4 | 599.4 - 1855.9 | 569.5 - 2220 | 584.6 - 1830.9 |
| Min QRS amplitude lead V5 (mean(SD)) | -205.33 (159.68) | -124.99 (111.50) | -204.01 (168.53) | -142.55 (118.49) |
| Min QRS amplitude lead V5 (2.5th-97.5th) | -634.6 - 0 | -403.65 - 0 | -616.5 - 0 | -453 - 0 |
| Max QRS amplitude lead V6 (mean(SD)) | 1093.62 (337.91) | 947.42 (256.72) | 921.88 (295.52) | 890.31 (278.31) |
| Max QRS amplitude lead V6 (2.5th-97.5th) | 518.2 - 1897.4 | 520.15 - 1508.3 | 402.5 - 1568.5 | 411.3 - 1574.9 |
| Min QRS amplitude lead V6 (mean(SD)) | -112.04 (80.32) | -76.68 (65.91) | -91.86 (76.07) | -71.28 (58.98) |
| Min QRS amplitude lead V6 (2.5th-97.5th) | -317 - 0 | -219.3 - 0 | -281.5 - 0 | -201.3 - 0 |

African Surinamese

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 276 | 474 | 368 | 595 |
| Max QRS amplitude lead I (mean(SD)) | 648.41 (275.55) | 681.08 (283.09) | 707.06 (276.08) | 765.86 (275.57) |
| Max QRS amplitude lead I (2.5th-97.5th) | 190.62 - 1244.25 | 249.82 - 1361.5 | 262.52 - 1354.42 | 310.9 - 1379.4 |
| Min QRS amplitude lead I (mean(SD)) | -123.24 (118.59) | -73.73 (81.68) | -105.41 (103.17) | -74.47 (78.47) |
| Min QRS amplitude lead I (2.5th-97.5th) | -422.25 - 0 | -273.52 - 0 | -375.62 - 0 | -268.5 - 0 |
| Max QRS amplitude lead II (mean(SD)) | 1260.75 (424.29) | 1170.84 (358.57) | 979.72 (406.04) | 935.92 (329.19) |
| Max QRS amplitude lead II (2.5th-97.5th) | 505.38 - 2192.12 | 581.5 - 1899.88 | 363.62 - 1887.72 | 360.1 - 1683.45 |
| Min QRS amplitude lead II (mean(SD)) | -134.66 (142.97) | -84.92 (105.04) | -130.14 (147.64) | -99.45 (115.71) |
| Min QRS amplitude lead II (2.5th-97.5th) | -460.75 - 0 | -347.8 - 0 | -492 - 0 | -411.3 - 0 |
| Max QRS amplitude lead III (mean(SD)) | 766.60 (497.94) | 626.74 (378.55) | 501.69 (392.44) | 386.49 (290.91) |
| Max QRS amplitude lead III (2.5th-97.5th) | 88.25 - 1830.5 | 90.6 - 1433.68 | 67.53 - 1464.3 | 51.4 - 1152.15 |
| Min QRS amplitude lead III (mean(SD)) | -204.56 (197.81) | -164.99 (159.83) | -279.19 (290.74) | -260.78 (243.85) |
| Min QRS amplitude lead III (2.5th-97.5th) | -783.75 - 0 | -601 - 0 | -1024.32 - 0 | -958.35 - 0 |
| Max QRS amplitude lead aVR (mean(SD)) | 85.59 (98.07) | 50.41 (70.95) | 78.79 (88.08) | 55.72 (69.59) |
| Max QRS amplitude lead aVR (2.5th-97.5th) | 0 - 331.38 | 0 - 227.05 | 0 - 299.65 | 0 - 236.75 |
| Min QRS amplitude lead aVR (mean(SD)) | -919.41 (243.78) | -900.93 (245.72) | -814.57 (243.64) | -830.80 (226.51) |
| Min QRS amplitude lead aVR (2.5th-97.5th) | -1459 - -468.88 | -1413.92 - -498.47 | -1362.6 - -356.35 | -1316.3 - -437.85 |
| Max QRS amplitude lead aVL (mean(SD)) | 283.09 (219.22) | 284.86 (216.84) | 383.67 (285.73) | 415.47 (263.16) |
| Max QRS amplitude lead aVL (2.5th-97.5th) | 0 - 858.5 | 0 - 849.18 | 0 - 1094.65 | 54.85 - 1014.8 |
| Min QRS amplitude lead aVL (mean(SD)) | -299.66 (247.37) | -205.69 (169.88) | -205.89 (185.42) | -138.49 (126.41) |
| Min QRS amplitude lead aVL (2.5th-97.5th) | -911.12 - 0 | -582.72 - 0 | -732.42 - 0 | -446.65 - 0 |
| Max QRS amplitude lead aVF (mean(SD)) | 987.39 (462.89) | 874.34 (361.90) | 688.68 (412.54) | 604.49 (321.36) |
| Max QRS amplitude lead aVF (2.5th-97.5th) | 179 - 2015.75 | 325.43 - 1684.35 | 110.88 - 1688.52 | 129.85 - 1372.2 |
| Min QRS amplitude lead aVF (mean(SD)) | -141.26 (146.69) | -94.76 (104.35) | -160.42 (187.19) | -126.85 (148.41) |
| Min QRS amplitude lead aVF (2.5th-97.5th) | -486.38 - 0 | -383.18 - 0 | -632.72 - 0 | -545.2 - 0 |
| Max QRS amplitude lead V1 (mean(SD)) | 325.21 (243.73) | 222.34 (156.50) | 224.62 (144.92) | 193.50 (142.64) |
| Max QRS amplitude lead V1 (2.5th-97.5th) | 71.5 - 1126.5 | 0 - 592 | 0 - 589.12 | 0 - 542.6 |
| Min QRS amplitude lead V1 (mean(SD)) | -1093.11 (514.99) | -924.13 (377.53) | -893.69 (397.84) | -865.22 (349.18) |
| Min QRS amplitude lead V1 (2.5th-97.5th) | -2238.88 - -263.5 | -1694.72 - -304.37 | -1829.65 - -301.88 | -1632.55 - -288 |
| Max QRS amplitude lead V2 (mean(SD)) | 816.45 (475.13) | 624.76 (353.17) | 692.17 (378.18) | 558.82 (321.69) |
| Max QRS amplitude lead V2 (2.5th-97.5th) | 180.75 - 2051.38 | 139.25 - 1498.53 | 99.53 - 1601.72 | 124.85 - 1238.75 |
| Min QRS amplitude lead V2 (mean(SD)) | -1566.18 (684.96) | -1102.00 (488.63) | -1298.21 (595.32) | -1000.07 (415.81) |
| Min QRS amplitude lead V2 (2.5th-97.5th) | -2906 - -372.88 | -2284.62 - -272.1 | -2596.62 - -315.53 | -1855.6 - -256.7 |
| Max QRS amplitude lead V3 (mean(SD)) | 1352.19 (687.79) | 1026.50 (492.06) | 1192.58 (591.94) | 877.46 (451.73) |
| Max QRS amplitude lead V3 (2.5th-97.5th) | 442.75 - 2856.38 | 297.48 - 2142.5 | 257.62 - 2461.5 | 234.95 - 1926 |
| Min QRS amplitude lead V3 (mean(SD)) | -1003.95 (674.04) | -562.86 (431.05) | -1034.89 (557.68) | -662.36 (396.29) |
| Min QRS amplitude lead V3 (2.5th-97.5th) | -2611.62 - 0 | -1626.12 - 0 | -2226.68 - 0 | -1499.5 - 0 |
| Max QRS amplitude lead V4 (mean(SD)) | 2202.45 (732.58) | 1513.88 (501.09) | 1913.80 (690.97) | 1359.29 (488.04) |
| Max QRS amplitude lead V4 (2.5th-97.5th) | 1027.88 - 3851 | 701.78 - 2662.75 | 833.72 - 3454.32 | 534.85 - 2447.15 |
| Min QRS amplitude lead V4 (mean(SD)) | -462.12 (402.91) | -228.14 (226.09) | -549.71 (395.98) | -327.67 (255.76) |
| Min QRS amplitude lead V4 (2.5th-97.5th) | -1489.38 - 0 | -821.75 - 0 | -1479.3 - 0 | -987.15 - 0 |
| Max QRS amplitude lead V5 (mean(SD)) | 1814.22 (555.64) | 1379.24 (374.69) | 1702.86 (520.60) | 1313.76 (405.53) |
| Max QRS amplitude lead V5 (2.5th-97.5th) | 897 - 3137.5 | 779.38 - 2149.05 | 823 - 2764.45 | 621.95 - 2253.45 |
| Min QRS amplitude lead V5 (mean(SD)) | -177.87 (173.18) | -102.04 (109.75) | -215.65 (204.81) | -137.58 (141.65) |
| Min QRS amplitude lead V5 (2.5th-97.5th) | -631.5 - 0 | -386.05 - 0 | -677.85 - 0 | -512.3 - 0 |
| Max QRS amplitude lead V6 (mean(SD)) | 1249.52 (414.56) | 1084.71 (310.27) | 1170.79 (417.75) | 1037.32 (339.98) |
| Max QRS amplitude lead V6 (2.5th-97.5th) | 606 - 2134 | 598.95 - 1718.28 | 488.22 - 2164.1 | 503.4 - 1809.45 |
| Min QRS amplitude lead V6 (mean(SD)) | -102.11 (90.15) | -67.76 (65.59) | -101.51 (99.43) | -72.02 (71.75) |
| Min QRS amplitude lead V6 (2.5th-97.5th) | -305.5 - 0 | -240 - 0 | -379.75 - 0 | -242.95 - 0 |

Sub-Saharan Western African

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 127 | 313 | 170 | 285 |
| Max QRS amplitude lead I (mean(SD)) | 700.50 (269.39) | 702.50 (260.10) | 782.79 (274.85) | 847.84 (281.79) |
| Max QRS amplitude lead I (2.5th-97.5th) | 237.65 - 1287.25 | 290.6 - 1224 | 366.45 - 1279.13 | 412.7 - 1466.9 |
| Min QRS amplitude lead I (mean(SD)) | -121.24 (121.61) | -71.08 (85.59) | -114.89 (120.79) | -69.11 (73.19) |
| Min QRS amplitude lead I (2.5th-97.5th) | -470.05 - 0 | -278.2 - 0 | -494 - 0 | -257.2 - 0 |
| Max QRS amplitude lead II (mean(SD)) | 1354.91 (456.90) | 1222.72 (372.68) | 1035.35 (398.06) | 1087.80 (324.86) |
| Max QRS amplitude lead II (2.5th-97.5th) | 531.15 - 2250.55 | 618.8 - 2029.2 | 260.5 - 1834.73 | 497.5 - 1788.5 |
| Min QRS amplitude lead II (mean(SD)) | -109.11 (138.07) | -70.53 (96.99) | -97.00 (136.00) | -59.24 (100.62) |
| Min QRS amplitude lead II (2.5th-97.5th) | -498.8 - 0 | -348.2 - 0 | -421.4 - 0 | -349.4 - 0 |
| Max QRS amplitude lead III (mean(SD)) | 834.87 (511.76) | 656.07 (406.17) | 492.29 (333.42) | 431.08 (321.47) |
| Max QRS amplitude lead III (2.5th-97.5th) | 172.65 - 2078.85 | 100.6 - 1600 | 90.23 - 1246.75 | 77.7 - 1329.9 |
| Min QRS amplitude lead III (mean(SD)) | -220.01 (255.32) | -167.49 (181.59) | -251.99 (292.07) | -231.38 (238.31) |
| Min QRS amplitude lead III (2.5th-97.5th) | -982.55 - 0 | -675.2 - 0 | -966.28 - 0 | -836.5 - 0 |
| Max QRS amplitude lead aVR (mean(SD)) | 65.22 (82.21) | 39.06 (61.58) | 70.39 (102.54) | 32.46 (58.17) |
| Max QRS amplitude lead aVR (2.5th-97.5th) | 0 - 290.65 | 0 - 196.2 | 0 - 360 | 0 - 210.6 |
| Min QRS amplitude lead aVR (mean(SD)) | -988.85 (255.09) | -939.21 (229.78) | -884.05 (249.54) | -946.40 (230.26) |
| Min QRS amplitude lead aVR (2.5th-97.5th) | -1480.85 - -542 | -1466.8 - -516 | -1349.85 - -408.67 | -1385.1 - -535.2 |
| Max QRS amplitude lead aVL (mean(SD)) | 314.83 (243.22) | 289.92 (220.16) | 411.78 (287.51) | 437.13 (258.93) |
| Max QRS amplitude lead aVL (2.5th-97.5th) | 0 - 1014.45 | 0 - 822.6 | 11.25 - 1054.85 | 57.5 - 1036.8 |
| Min QRS amplitude lead aVL (mean(SD)) | -326.28 (258.51) | -221.25 (186.49) | -201.37 (160.95) | -158.96 (141.59) |
| Min QRS amplitude lead aVL (2.5th-97.5th) | -884.05 - -4.65 | -742.4 - 0 | -627.48 - 0 | -588.2 - 0 |
| Max QRS amplitude lead aVF (mean(SD)) | 1062.98 (488.07) | 912.04 (390.44) | 709.98 (373.91) | 705.52 (328.68) |
| Max QRS amplitude lead aVF (2.5th-97.5th) | 255.6 - 2091.1 | 253.2 - 1792.8 | 155.58 - 1427.68 | 190.2 - 1479.6 |
| Min QRS amplitude lead aVF (mean(SD)) | -137.01 (171.47) | -87.28 (110.81) | -117.80 (165.17) | -88.09 (137.63) |
| Min QRS amplitude lead aVF (2.5th-97.5th) | -641.5 - 0 | -406.4 - 0 | -597.18 - 0 | -525.9 - 0 |
| Max QRS amplitude lead V1 (mean(SD)) | 371.61 (276.12) | 230.69 (159.44) | 275.60 (196.42) | 200.55 (126.23) |
| Max QRS amplitude lead V1 (2.5th-97.5th) | 64.65 - 1004.25 | 0 - 691.6 | 50.9 - 796.45 | 0 - 505.8 |
| Min QRS amplitude lead V1 (mean(SD)) | -1254.03 (549.57) | -1010.42 (399.59) | -1005.57 (447.68) | -969.47 (356.92) |
| Min QRS amplitude lead V1 (2.5th-97.5th) | -2323.15 - -484.35 | -1815 - -375.8 | -1928.33 - -265.35 | -1756.5 - -395.1 |
| Max QRS amplitude lead V2 (mean(SD)) | 888.77 (481.65) | 662.24 (342.47) | 807.98 (421.36) | 600.73 (345.63) |
| Max QRS amplitude lead V2 (2.5th-97.5th) | 196.6 - 1923.4 | 156 - 1520.6 | 125.8 - 1769.2 | 146.8 - 1383.3 |
| Min QRS amplitude lead V2 (mean(SD)) | -1704.40 (769.61) | -1153.62 (508.88) | -1412.43 (583.27) | -1017.46 (409.75) |
| Min QRS amplitude lead V2 (2.5th-97.5th) | -3729.95 - -417.95 | -2376.2 - -347 | -2530.02 - -295.55 | -1887.9 - -303.2 |
| Max QRS amplitude lead V3 (mean(SD)) | 1485.56 (738.85) | 1032.09 (521.62) | 1285.57 (615.22) | 972.07 (482.39) |
| Max QRS amplitude lead V3 (2.5th-97.5th) | 342.45 - 3078.05 | 257.6 - 2282.2 | 374.7 - 2741.7 | 251 - 2075.6 |
| Min QRS amplitude lead V3 (mean(SD)) | -1022.39 (595.36) | -605.54 (436.20) | -1097.85 (606.38) | -676.39 (428.71) |
| Min QRS amplitude lead V3 (2.5th-97.5th) | -2301.75 - 0 | -1629.8 - 0 | -2209.05 - -34.3 | -1634.5 - 0 |
| Max QRS amplitude lead V4 (mean(SD)) | 2430.61 (730.61) | 1613.90 (504.38) | 2096.09 (722.49) | 1574.22 (554.64) |
| Max QRS amplitude lead V4 (2.5th-97.5th) | 1241.6 - 4044.45 | 581.8 - 2575.6 | 854.9 - 3664.9 | 628.8 - 2761.3 |
| Min QRS amplitude lead V4 (mean(SD)) | -414.61 (400.86) | -233.08 (244.48) | -589.73 (470.31) | -303.67 (270.08) |
| Min QRS amplitude lead V4 (2.5th-97.5th) | -1520.1 - 0 | -825.6 - 0 | -1545.97 - 0 | -932.3 - 0 |
| Max QRS amplitude lead V5 (mean(SD)) | 2046.35 (665.31) | 1478.05 (392.76) | 1864.90 (528.65) | 1502.91 (407.39) |
| Max QRS amplitude lead V5 (2.5th-97.5th) | 1141.2 - 3510.9 | 828.6 - 2377.2 | 971.2 - 3058.93 | 825.9 - 2359.5 |
| Min QRS amplitude lead V5 (mean(SD)) | -178.17 (200.72) | -106.00 (130.00) | -226.18 (250.17) | -116.73 (137.26) |
| Min QRS amplitude lead V5 (2.5th-97.5th) | -839.75 - 0 | -391 - 0 | -852.42 - 0 | -455.1 - 0 |
| Max QRS amplitude lead V6 (mean(SD)) | 1395.34 (428.54) | 1157.73 (297.12) | 1266.90 (412.71) | 1183.28 (340.29) |
| Max QRS amplitude lead V6 (2.5th-97.5th) | 811.9 - 2528.8 | 668 - 1775 | 565.8 - 2101.68 | 674.6 - 1939.4 |
| Min QRS amplitude lead V6 (mean(SD)) | -100.20 (99.43) | -60.86 (64.71) | -98.71 (108.80) | -57.80 (68.23) |
| Min QRS amplitude lead V6 (2.5th-97.5th) | -392.05 - 0 | -239.2 - 0 | -432.62 - 0 | -224.8 - 0 |

Turkish

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 513 | 735 | 381 | 445 |
| Max QRS amplitude lead I (mean(SD)) | 622.76 (265.28) | 566.49 (246.45) | 665.81 (248.18) | 676.60 (254.90) |
| Max QRS amplitude lead I (2.5th-97.5th) | 193.4 - 1185.4 | 182.35 - 1135.65 | 273 - 1242.5 | 245.7 - 1213.5 |
| Min QRS amplitude lead I (mean(SD)) | -144.12 (111.54) | -84.93 (80.21) | -100.57 (77.68) | -84.06 (72.89) |
| Min QRS amplitude lead I (2.5th-97.5th) | -423.6 - 0 | -265 - 0 | -303.5 - 0 | -262.3 - 0 |
| Max QRS amplitude lead II (mean(SD)) | 1044.45 (390.34) | 970.97 (293.02) | 717.77 (274.85) | 768.04 (266.34) |
| Max QRS amplitude lead II (2.5th-97.5th) | 425 - 1916 | 464.05 - 1602.95 | 242 - 1312.5 | 314.3 - 1369.7 |
| Min QRS amplitude lead II (mean(SD)) | -129.51 (110.86) | -92.93 (83.76) | -107.81 (112.08) | -81.05 (78.42) |
| Min QRS amplitude lead II (2.5th-97.5th) | -429.6 - 0 | -280.65 - 0 | -403 - 0 | -257.4 - 0 |
| Max QRS amplitude lead III (mean(SD)) | 615.74 (440.86) | 535.21 (325.31) | 311.78 (244.35) | 325.14 (241.21) |
| Max QRS amplitude lead III (2.5th-97.5th) | 74.2 - 1648.4 | 62.35 - 1245.65 | 37 - 945 | 0 - 907.2 |
| Min QRS amplitude lead III (mean(SD)) | -190.79 (173.87) | -142.60 (141.58) | -268.80 (238.31) | -217.68 (194.53) |
| Min QRS amplitude lead III (2.5th-97.5th) | -615.2 - 0 | -524.2 - 0 | -809.5 - 0 | -662.3 - 0 |
| Max QRS amplitude lead aVR (mean(SD)) | 101.78 (88.81) | 62.25 (64.41) | 76.77 (72.23) | 55.51 (56.65) |
| Max QRS amplitude lead aVR (2.5th-97.5th) | 0 - 314.4 | 0 - 215.9 | 0 - 272.5 | 0 - 191.6 |
| Min QRS amplitude lead aVR (mean(SD)) | -804.30 (220.50) | -746.12 (197.05) | -671.47 (186.23) | -704.59 (199.42) |
| Min QRS amplitude lead aVR (2.5th-97.5th) | -1288.4 - -422 | -1155.65 - -424 | -1079.5 - -345 | -1119 - -348.2 |
| Max QRS amplitude lead aVL (mean(SD)) | 291.36 (226.97) | 233.70 (201.21) | 401.23 (250.54) | 372.04 (233.42) |
| Max QRS amplitude lead aVL (2.5th-97.5th) | 0 - 859 | 0 - 774.3 | 39.5 - 974 | 51.2 - 893.3 |
| Min QRS amplitude lead aVL (mean(SD)) | -265.18 (215.46) | -187.16 (152.71) | -148.61 (116.60) | -138.44 (116.54) |
| Min QRS amplitude lead aVL (2.5th-97.5th) | -822.2 - 0 | -565.25 - 0 | -461 - 0 | -446.9 - 0 |
| Max QRS amplitude lead aVF (mean(SD)) | 788.23 (427.63) | 725.46 (313.54) | 447.44 (271.09) | 482.25 (266.37) |
| Max QRS amplitude lead aVF (2.5th-97.5th) | 146.4 - 1771.2 | 156 - 1390.95 | 53.5 - 1107.5 | 78 - 1064.1 |
| Min QRS amplitude lead aVF (mean(SD)) | -119.35 (104.51) | -92.97 (86.31) | -124.43 (137.43) | -94.69 (98.29) |
| Min QRS amplitude lead aVF (2.5th-97.5th) | -378.4 - 0 | -295.9 - 0 | -502 - 0 | -348.7 - 0 |
| Max QRS amplitude lead V1 (mean(SD)) | 279.75 (165.85) | 187.11 (113.79) | 201.81 (119.67) | 167.76 (109.51) |
| Max QRS amplitude lead V1 (2.5th-97.5th) | 57.4 - 710.4 | 0 - 448.6 | 30.5 - 468.5 | 0 - 401 |
| Min QRS amplitude lead V1 (mean(SD)) | -889.80 (360.62) | -773.55 (282.75) | -702.48 (290.01) | -695.26 (235.81) |
| Min QRS amplitude lead V1 (2.5th-97.5th) | -1696.4 - -305 | -1406.55 - -305.4 | -1373 - -234.5 | -1178.3 - -292.1 |
| Max QRS amplitude lead V2 (mean(SD)) | 724.73 (334.99) | 497.53 (243.86) | 672.35 (346.16) | 501.97 (252.78) |
| Max QRS amplitude lead V2 (2.5th-97.5th) | 227.8 - 1513.4 | 133.05 - 1024.65 | 133.5 - 1437.5 | 134 - 1118.6 |
| Min QRS amplitude lead V2 (mean(SD)) | -1440.63 (542.41) | -980.60 (395.49) | -1043.98 (454.33) | -867.08 (324.74) |
| Min QRS amplitude lead V2 (2.5th-97.5th) | -2651 - -471.8 | -1857.6 - -294.8 | -2002 - -328 | -1588.3 - -269.7 |
| Max QRS amplitude lead V3 (mean(SD)) | 1091.67 (460.87) | 801.18 (406.73) | 1104.05 (480.59) | 733.18 (349.64) |
| Max QRS amplitude lead V3 (2.5th-97.5th) | 373.6 - 2056 | 227.4 - 1789.8 | 312.5 - 2141 | 210.6 - 1466.6 |
| Min QRS amplitude lead V3 (mean(SD)) | -974.23 (511.86) | -581.44 (357.19) | -849.49 (426.65) | -623.55 (298.27) |
| Min QRS amplitude lead V3 (2.5th-97.5th) | -2193 - -98.8 | -1311.3 - 0 | -1900 - -174 | -1278 - -128 |
| Max QRS amplitude lead V4 (mean(SD)) | 1651.74 (574.65) | 1233.45 (432.78) | 1504.06 (517.53) | 1094.00 (401.21) |
| Max QRS amplitude lead V4 (2.5th-97.5th) | 648.6 - 2908.4 | 454.5 - 2210.6 | 600 - 2577 | 421.1 - 1993.1 |
| Min QRS amplitude lead V4 (mean(SD)) | -510.51 (321.45) | -271.72 (217.64) | -510.25 (319.98) | -338.97 (223.81) |
| Min QRS amplitude lead V4 (2.5th-97.5th) | -1249.8 - 0 | -816.3 - 0 | -1284.5 - 0 | -885.1 - 0 |
| Max QRS amplitude lead V5 (mean(SD)) | 1512.60 (452.28) | 1171.73 (319.30) | 1330.67 (402.22) | 1112.24 (327.91) |
| Max QRS amplitude lead V5 (2.5th-97.5th) | 772.4 - 2514.4 | 599.4 - 1855.9 | 569.5 - 2220 | 584.6 - 1830.9 |
| Min QRS amplitude lead V5 (mean(SD)) | -205.33 (159.68) | -124.99 (111.50) | -204.01 (168.53) | -142.55 (118.49) |
| Min QRS amplitude lead V5 (2.5th-97.5th) | -634.6 - 0 | -403.65 - 0 | -616.5 - 0 | -453 - 0 |
| Max QRS amplitude lead V6 (mean(SD)) | 1093.62 (337.91) | 947.42 (256.72) | 921.88 (295.52) | 890.31 (278.31) |
| Max QRS amplitude lead V6 (2.5th-97.5th) | 518.2 - 1897.4 | 520.15 - 1508.3 | 402.5 - 1568.5 | 411.3 - 1574.9 |
| Min QRS amplitude lead V6 (mean(SD)) | -112.04 (80.32) | -76.68 (65.91) | -91.86 (76.07) | -71.28 (58.98) |
| Min QRS amplitude lead V6 (2.5th-97.5th) | -317 - 0 | -219.3 - 0 | -281.5 - 0 | -201.3 - 0 |

Moroccan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 495 | 1032 | 369 | 581 |
| Max QRS amplitude lead I (mean(SD)) | 705.92 (281.24) | 631.90 (258.27) | 742.96 (291.60) | 776.45 (273.89) |
| Max QRS amplitude lead I (2.5th-97.5th) | 259.35 - 1230.95 | 209 - 1237.12 | 254.8 - 1399 | 304.5 - 1424.5 |
| Min QRS amplitude lead I (mean(SD)) | -145.17 (115.68) | -90.74 (81.21) | -105.21 (88.22) | -84.97 (69.77) |
| Min QRS amplitude lead I (2.5th-97.5th) | -429.8 - 0 | -285.22 - 0 | -323.6 - 0 | -256.5 - 0 |
| Max QRS amplitude lead II (mean(SD)) | 1073.35 (385.38) | 1016.94 (303.05) | 799.71 (329.53) | 844.42 (284.17) |
| Max QRS amplitude lead II (2.5th-97.5th) | 457.5 - 1891.2 | 493.2 - 1655.03 | 229 - 1547.6 | 328.5 - 1452 |
| Min QRS amplitude lead II (mean(SD)) | -127.58 (121.26) | -96.27 (91.36) | -101.01 (116.49) | -89.77 (95.16) |
| Min QRS amplitude lead II (2.5th-97.5th) | -410.5 - 0 | -326 - 0 | -395.6 - 0 | -338 - 0 |
| Max QRS amplitude lead III (mean(SD)) | 600.57 (402.50) | 526.39 (335.41) | 373.32 (278.55) | 329.18 (257.97) |
| Max QRS amplitude lead III (2.5th-97.5th) | 96.75 - 1530.65 | 76.78 - 1256 | 68 - 1139.4 | 46.5 - 1017.5 |
| Min QRS amplitude lead III (mean(SD)) | -215.74 (232.25) | -156.14 (157.63) | -298.52 (297.86) | -260.18 (250.91) |
| Min QRS amplitude lead III (2.5th-97.5th) | -829.15 - 0 | -576.05 - 0 | -1050.8 - 0 | -893 - 0 |
| Max QRS amplitude lead aVR (mean(SD)) | 98.74 (88.67) | 66.71 (65.85) | 68.23 (74.14) | 57.98 (60.72) |
| Max QRS amplitude lead aVR (2.5th-97.5th) | 0 - 302.95 | 0 - 228 | 0 - 275 | 0 - 208.5 |
| Min QRS amplitude lead aVR (mean(SD)) | -862.46 (217.27) | -800.11 (209.43) | -747.26 (214.21) | -789.88 (199.63) |
| Min QRS amplitude lead aVR (2.5th-97.5th) | -1319.5 - -497.35 | -1259.22 - -432.32 | -1202.6 - -354.2 | -1212 - -451.5 |
| Max QRS amplitude lead aVL (mean(SD)) | 339.51 (272.91) | 272.32 (210.50) | 448.59 (298.80) | 438.64 (273.68) |
| Max QRS amplitude lead aVL (2.5th-97.5th) | 0 - 929.95 | 0 - 804.9 | 36.8 - 1167 | 57.5 - 1050.5 |
| Min QRS amplitude lead aVL (mean(SD)) | -255.13 (194.92) | -183.97 (154.47) | -176.89 (125.38) | -138.59 (111.55) |
| Min QRS amplitude lead aVL (2.5th-97.5th) | -724.25 - 0 | -571.12 - 0 | -511 - 0 | -457 - 0 |
| Max QRS amplitude lead aVF (mean(SD)) | 784.64 (413.13) | 742.60 (320.45) | 514.43 (313.31) | 515.15 (287.35) |
| Max QRS amplitude lead aVF (2.5th-97.5th) | 150.5 - 1645.25 | 198.98 - 1396.73 | 95.2 - 1314.4 | 103 - 1213 |
| Min QRS amplitude lead aVF (mean(SD)) | -126.72 (130.92) | -95.03 (93.19) | -133.54 (163.52) | -111.37 (130.71) |
| Min QRS amplitude lead aVF (2.5th-97.5th) | -434.95 - 0 | -320.22 - 0 | -583.4 - 0 | -476.5 - 0 |
| Max QRS amplitude lead V1 (mean(SD)) | 287.08 (169.27) | 212.78 (124.75) | 236.89 (123.42) | 207.85 (118.20) |
| Max QRS amplitude lead V1 (2.5th-97.5th) | 69.35 - 723.6 | 35.33 - 517.9 | 53 - 544.4 | 51.5 - 495.5 |
| Min QRS amplitude lead V1 (mean(SD)) | -904.23 (398.77) | -787.58 (296.19) | -736.93 (325.40) | -743.02 (282.77) |
| Min QRS amplitude lead V1 (2.5th-97.5th) | -1966.05 - -295.15 | -1434.4 - -285.65 | -1422 - -196 | -1358.5 - -242.5 |
| Max QRS amplitude lead V2 (mean(SD)) | 805.43 (364.53) | 605.68 (292.27) | 811.05 (449.44) | 602.45 (324.77) |
| Max QRS amplitude lead V2 (2.5th-97.5th) | 220.7 - 1675.75 | 179.33 - 1302.35 | 151.2 - 1864.2 | 160 - 1417 |
| Min QRS amplitude lead V2 (mean(SD)) | -1432.47 (541.97) | -966.09 (433.15) | -1066.28 (452.56) | -816.76 (373.51) |
| Min QRS amplitude lead V2 (2.5th-97.5th) | -2643.55 - -505.05 | -1953.45 - -221.32 | -1967.2 - -275.8 | -1654 - -135 |
| Max QRS amplitude lead V3 (mean(SD)) | 1369.28 (571.44) | 1002.18 (451.27) | 1265.66 (599.47) | 948.60 (424.95) |
| Max QRS amplitude lead V3 (2.5th-97.5th) | 511.35 - 2664.2 | 305.88 - 2076 | 330.6 - 2725 | 317.5 - 1970.5 |
| Min QRS amplitude lead V3 (mean(SD)) | -880.60 (486.92) | -528.13 (370.00) | -748.31 (433.44) | -512.71 (309.67) |
| Min QRS amplitude lead V3 (2.5th-97.5th) | -1982.95 - 0 | -1480.8 - 0 | -1690.2 - 0 | -1298.5 - 0 |
| Max QRS amplitude lead V4 (mean(SD)) | 1987.48 (641.38) | 1389.03 (440.52) | 1750.66 (597.94) | 1303.88 (439.91) |
| Max QRS amplitude lead V4 (2.5th-97.5th) | 961.7 - 3337.8 | 613.62 - 2313.02 | 687.4 - 2952.6 | 543 - 2276 |
| Min QRS amplitude lead V4 (mean(SD)) | -445.68 (313.54) | -246.03 (210.05) | -425.84 (320.86) | -268.64 (214.83) |
| Min QRS amplitude lead V4 (2.5th-97.5th) | -1148.65 - 0 | -763.9 - 0 | -1106.4 - 0 | -807 - 0 |
| Max QRS amplitude lead V5 (mean(SD)) | 1674.67 (512.82) | 1261.76 (347.70) | 1527.91 (492.14) | 1209.91 (355.84) |
| Max QRS amplitude lead V5 (2.5th-97.5th) | 857.05 - 2771.05 | 688.88 - 1969.12 | 760.4 - 2470.6 | 571 - 1992 |
| Min QRS amplitude lead V5 (mean(SD)) | -192.77 (153.59) | -123.74 (104.90) | -186.96 (181.25) | -124.91 (119.66) |
| Min QRS amplitude lead V5 (2.5th-97.5th) | -555.25 - 0 | -379.57 - 0 | -639.4 - 0 | -453.5 - 0 |
| Max QRS amplitude lead V6 (mean(SD)) | 1166.06 (367.41) | 1004.70 (278.49) | 1050.85 (378.57) | 950.18 (287.34) |
| Max QRS amplitude lead V6 (2.5th-97.5th) | 582.25 - 1875.8 | 542 - 1617.45 | 463.6 - 1924.6 | 472 - 1574.5 |
| Min QRS amplitude lead V6 (mean(SD)) | -110.79 (82.98) | -78.65 (59.75) | -90.81 (81.05) | -73.52 (63.34) |
| Min QRS amplitude lead V6 (2.5th-97.5th) | -290.3 - 0 | -210.23 - 0 | -298 - 0 | -232 - 0 |

Normal limits for QRS-complex amplitudes using 2.5th and 97.5th percentiles

Dutch

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 522 | 735 | 587 | 878 |
| Max T-wave amplitude lead I (mean(SD)) | 295.10 (98.94) | 259.20 (84.18) | 253.06 (97.57) | 207.55 (79.54) |
| Max T-wave amplitude lead I (2.5th-97.5th) | 120.05 - 507.87 | 121.35 - 436.65 | 82.6 - 446 | 71 - 383.22 |
| Min T-wave amplitude lead I (mean(SD)) | -0.69 (15.71) | -0.05 (1.33) | -0.09 (1.52) | -0.34 (7.13) |
| Min T-wave amplitude lead I (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead II (mean(SD)) | 413.08 (123.94) | 349.06 (109.35) | 326.45 (115.89) | 293.29 (100.81) |
| Max T-wave amplitude lead II (2.5th-97.5th) | 186.08 - 662.9 | 167.05 - 602 | 131.95 - 586.4 | 117.78 - 503.07 |
| Min T-wave amplitude lead II (mean(SD)) | -0.24 (5.47) | -0.19 (4.19) | 0.00 (0.00) | -0.33 (6.04) |
| Min T-wave amplitude lead II (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead III (mean(SD)) | 143.40 (110.52) | 111.77 (87.04) | 101.41 (98.91) | 100.95 (81.06) |
| Max T-wave amplitude lead III (2.5th-97.5th) | 0 - 378.95 | 0 - 313.6 | 0 - 334.1 | 0 - 287.22 |
| Min T-wave amplitude lead III (mean(SD)) | -16.41 (40.72) | -16.42 (35.99) | -24.51 (50.11) | -12.14 (31.45) |
| Min T-wave amplitude lead III (2.5th-97.5th) | -149.95 - 0 | -130.25 - 0 | -166.35 - 0 | -117.22 - 0 |
| Max T-wave amplitude lead aVR (mean(SD)) | 0.45 (10.33) | 0.09 (2.51) | 0.00 (0.00) | 0.20 (5.94) |
| Max T-wave amplitude lead aVR (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Min T-wave amplitude lead aVR (mean(SD)) | -352.15 (90.99) | -302.49 (82.27) | -288.21 (86.41) | -249.05 (77.73) |
| Min T-wave amplitude lead aVR (2.5th-97.5th) | -534.97 - -184.03 | -490.3 - -154 | -462.7 - -134.3 | -407.15 - -96.78 |
| Max T-wave amplitude lead aVL (mean(SD)) | 102.97 (85.68) | 94.24 (70.83) | 100.57 (85.95) | 69.87 (64.39) |
| Max T-wave amplitude lead aVL (2.5th-97.5th) | 0 - 290.92 | 0 - 252.9 | 0 - 290.35 | 0 - 223.07 |
| Min T-wave amplitude lead aVL (mean(SD)) | -11.07 (31.90) | -5.00 (17.65) | -8.19 (24.73) | -6.15 (19.47) |
| Min T-wave amplitude lead aVL (2.5th-97.5th) | -111.9 - 0 | -69.3 - 0 | -90.45 - 0 | -68.22 - 0 |
| Max T-wave amplitude lead aVF (mean(SD)) | 269.77 (114.90) | 223.43 (96.14) | 203.24 (108.68) | 191.95 (88.01) |
| Max T-wave amplitude lead aVF (2.5th-97.5th) | 73.05 - 510.9 | 63.35 - 437.65 | 0 - 446 | 43.92 - 389.07 |
| Min T-wave amplitude lead aVF (mean(SD)) | -0.61 (5.55) | -0.89 (7.07) | -0.49 (5.42) | -0.71 (5.75) |
| Min T-wave amplitude lead aVF (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V1 (mean(SD)) | 93.16 (114.46) | 30.74 (49.91) | 91.07 (107.73) | 48.89 (59.59) |
| Max T-wave amplitude lead V1 (2.5th-97.5th) | 0 - 355 | 0 - 162.65 | 0 - 324.4 | 0 - 205.37 |
| Min T-wave amplitude lead V1 (mean(SD)) | -79.27 (95.68) | -114.81 (84.96) | -45.87 (68.64) | -65.42 (66.58) |
| Min T-wave amplitude lead V1 (2.5th-97.5th) | -300.98 - 0 | -306 - 0 | -233.7 - 0 | -216.15 - 0 |
| Max T-wave amplitude lead V2 (mean(SD)) | 736.51 (311.60) | 457.26 (227.50) | 643.94 (291.81) | 419.26 (218.33) |
| Max T-wave amplitude lead V2 (2.5th-97.5th) | 119.2 - 1349.55 | 0 - 914.95 | 81.4 - 1242.8 | 22.92 - 873 |
| Min T-wave amplitude lead V2 (mean(SD)) | -4.52 (35.21) | -6.60 (33.93) | -2.40 (17.61) | -3.20 (22.01) |
| Min T-wave amplitude lead V2 (2.5th-97.5th) | -49.8 - 0 | -110.9 - 0 | 0 - 0 | -44.08 - 0 |
| Max T-wave amplitude lead V3 (mean(SD)) | 909.06 (291.42) | 545.21 (228.23) | 765.13 (279.26) | 492.59 (227.62) |
| Max T-wave amplitude lead V3 (2.5th-97.5th) | 351.35 - 1508.82 | 176.35 - 1075.3 | 266.3 - 1395.45 | 116.85 - 989 |
| Min T-wave amplitude lead V3 (mean(SD)) | -2.78 (63.42) | -0.52 (9.34) | 0.00 (0.00) | -1.32 (24.06) |
| Min T-wave amplitude lead V3 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V4 (mean(SD)) | 833.36 (301.14) | 526.42 (197.49) | 674.26 (277.91) | 441.70 (204.04) |
| Max T-wave amplitude lead V4 (2.5th-97.5th) | 353.1 - 1507.87 | 197.7 - 991 | 198.15 - 1348.1 | 119.92 - 889.67 |
| Min T-wave amplitude lead V4 (mean(SD)) | -2.76 (63.03) | -0.30 (8.08) | -0.10 (2.44) | -1.15 (23.23) |
| Min T-wave amplitude lead V4 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V5 (mean(SD)) | 600.91 (228.21) | 440.48 (150.39) | 498.81 (207.71) | 358.71 (148.98) |
| Max T-wave amplitude lead V5 (2.5th-97.5th) | 252.07 - 1139.95 | 196 - 791.6 | 151.55 - 978.95 | 113.85 - 681.22 |
| Min T-wave amplitude lead V5 (mean(SD)) | -1.60 (36.55) | -0.43 (9.96) | -0.09 (2.19) | -1.34 (19.05) |
| Min T-wave amplitude lead V5 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V6 (mean(SD)) | 399.07 (155.19) | 333.33 (116.47) | 338.91 (147.74) | 273.12 (111.04) |
| Max T-wave amplitude lead V6 (2.5th-97.5th) | 169.05 - 750.6 | 147.7 - 613 | 113.3 - 694.2 | 100.92 - 535.07 |
| Min T-wave amplitude lead V6 (mean(SD)) | -0.58 (13.17) | -0.26 (4.14) | -0.28 (3.84) | -0.95 (9.06) |
| Min T-wave amplitude lead V6 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |

South Asian Surinamese

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 334 | 407 | 261 | 393 |
| Max T-wave amplitude lead I (mean(SD)) | 290.31 (99.20) | 258.00 (83.04) | 246.85 (95.87) | 220.11 (82.26) |
| Max T-wave amplitude lead I (2.5th-97.5th) | 116.32 - 529.7 | 117.3 - 447.1 | 70.5 - 459 | 77.2 - 398 |
| Min T-wave amplitude lead I (mean(SD)) | -1.80 (32.83) | 0.00 (0.00) | -0.08 (1.24) | 0.00 (0.00) |
| Min T-wave amplitude lead I (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead II (mean(SD)) | 368.54 (120.51) | 305.73 (107.49) | 281.49 (111.68) | 249.42 (95.29) |
| Max T-wave amplitude lead II (2.5th-97.5th) | 162.98 - 616.1 | 120.9 - 543.55 | 96 - 504.5 | 83.2 - 439.6 |
| Min T-wave amplitude lead II (mean(SD)) | -0.64 (11.76) | -0.53 (5.01) | 0.00 (0.00) | -0.40 (3.60) |
| Min T-wave amplitude lead II (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead III (mean(SD)) | 110.55 (107.06) | 71.77 (74.60) | 68.93 (83.93) | 54.30 (66.48) |
| Max T-wave amplitude lead III (2.5th-97.5th) | 0 - 390.9 | 0 - 259.2 | 0 - 269 | 0 - 226 |
| Min T-wave amplitude lead III (mean(SD)) | -27.81 (52.39) | -22.76 (40.17) | -35.00 (57.48) | -25.56 (42.66) |
| Min T-wave amplitude lead III (2.5th-97.5th) | -183.7 - 0 | -134.55 - 0 | -181 - 0 | -153 - 0 |
| Max T-wave amplitude lead aVR (mean(SD)) | 1.19 (21.83) | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) |
| Max T-wave amplitude lead aVR (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Min T-wave amplitude lead aVR (mean(SD)) | -327.58 (88.15) | -280.29 (84.22) | -262.33 (87.41) | -233.59 (77.13) |
| Min T-wave amplitude lead aVR (2.5th-97.5th) | -507.35 - -173 | -446.4 - -136 | -426.5 - -100.5 | -378.4 - -92.8 |
| Max T-wave amplitude lead aVL (mean(SD)) | 118.68 (89.21) | 110.17 (68.11) | 114.03 (82.88) | 99.11 (68.21) |
| Max T-wave amplitude lead aVL (2.5th-97.5th) | 0 - 329.05 | 0 - 267.85 | 0 - 306 | 0 - 238.2 |
| Min T-wave amplitude lead aVL (mean(SD)) | -8.79 (37.81) | -0.87 (5.99) | -5.03 (18.62) | -2.06 (10.94) |
| Min T-wave amplitude lead aVL (2.5th-97.5th) | -96.7 - 0 | 0 - 0 | -72 - 0 | -35.2 - 0 |
| Max T-wave amplitude lead aVF (mean(SD)) | 227.77 (115.41) | 179.50 (90.96) | 162.44 (99.88) | 142.01 (81.18) |
| Max T-wave amplitude lead aVF (2.5th-97.5th) | 36.3 - 470.7 | 0 - 381.85 | 0 - 391 | 0 - 316 |
| Min T-wave amplitude lead aVF (mean(SD)) | -0.47 (4.53) | -1.14 (9.26) | -2.12 (11.07) | -1.25 (7.54) |
| Min T-wave amplitude lead aVF (2.5th-97.5th) | 0 - 0 | 0 - 0 | -33 - 0 | -26.2 - 0 |
| Max T-wave amplitude lead V1 (mean(SD)) | 121.13 (118.72) | 27.47 (38.96) | 102.03 (102.46) | 40.21 (50.08) |
| Max T-wave amplitude lead V1 (2.5th-97.5th) | 0 - 405.7 | 0 - 117.85 | 0 - 345 | 0 - 172.8 |
| Min T-wave amplitude lead V1 (mean(SD)) | -48.10 (73.19) | -102.11 (75.05) | -47.35 (72.17) | -66.66 (60.09) |
| Min T-wave amplitude lead V1 (2.5th-97.5th) | -264.38 - 0 | -261.1 - 0 | -241 - 0 | -210.2 - 0 |
| Max T-wave amplitude lead V2 (mean(SD)) | 710.54 (258.49) | 362.09 (193.28) | 603.85 (271.72) | 330.81 (170.33) |
| Max T-wave amplitude lead V2 (2.5th-97.5th) | 186.65 - 1182.15 | 0 - 756.3 | 109.5 - 1179 | 26.6 - 688.2 |
| Min T-wave amplitude lead V2 (mean(SD)) | -2.23 (18.86) | -4.91 (25.17) | -3.25 (24.57) | -3.02 (16.77) |
| Min T-wave amplitude lead V2 (2.5th-97.5th) | 0 - 0 | -74.85 - 0 | -28 - 0 | -63.6 - 0 |
| Max T-wave amplitude lead V3 (mean(SD)) | 731.45 (268.35) | 400.38 (214.92) | 625.56 (256.38) | 335.45 (193.79) |
| Max T-wave amplitude lead V3 (2.5th-97.5th) | 283.22 - 1303.25 | 49.45 - 894.25 | 213.5 - 1201.5 | 24.4 - 793.8 |
| Min T-wave amplitude lead V3 (mean(SD)) | -1.70 (31.13) | -0.80 (6.59) | -0.19 (3.03) | -2.28 (15.58) |
| Min T-wave amplitude lead V3 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | -28.6 - 0 |
| Max T-wave amplitude lead V4 (mean(SD)) | 637.39 (253.68) | 394.92 (181.69) | 524.49 (237.26) | 317.53 (155.75) |
| Max T-wave amplitude lead V4 (2.5th-97.5th) | 235.9 - 1220.78 | 99.5 - 786.25 | 170 - 1095 | 33 - 667.4 |
| Min T-wave amplitude lead V4 (mean(SD)) | -2.35 (42.95) | -0.69 (5.94) | -0.20 (3.28) | -1.72 (15.49) |
| Min T-wave amplitude lead V4 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V5 (mean(SD)) | 478.20 (186.24) | 360.17 (143.25) | 398.20 (190.72) | 281.41 (118.48) |
| Max T-wave amplitude lead V5 (2.5th-97.5th) | 184.3 - 900.83 | 114 - 685.35 | 113.5 - 833 | 57.6 - 534.8 |
| Min T-wave amplitude lead V5 (mean(SD)) | -2.08 (37.97) | -0.13 (2.68) | -0.09 (1.49) | -0.58 (8.82) |
| Min T-wave amplitude lead V5 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V6 (mean(SD)) | 333.48 (125.55) | 287.47 (105.07) | 280.85 (138.72) | 231.25 (90.39) |
| Max T-wave amplitude lead V6 (2.5th-97.5th) | 125.63 - 618.35 | 113.6 - 538.1 | 74.5 - 585.5 | 68 - 414.2 |
| Min T-wave amplitude lead V6 (mean(SD)) | -1.48 (23.65) | -0.31 (3.17) | -0.33 (4.09) | -0.50 (4.66) |
| Min T-wave amplitude lead V6 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |

African Surinamese

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 276 | 474 | 368 | 595 |
| Max T-wave amplitude lead I (mean(SD)) | 297.46 (104.05) | 257.38 (89.47) | 232.80 (105.62) | 224.90 (85.89) |
| Max T-wave amplitude lead I (2.5th-97.5th) | 119 - 549.12 | 115 - 461.23 | 61 - 466.77 | 80.7 - 412.15 |
| Min T-wave amplitude lead I (mean(SD)) | 0.00 (0.00) | -0.06 (1.24) | -0.88 (14.81) | -0.29 (4.51) |
| Min T-wave amplitude lead I (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead II (mean(SD)) | 376.36 (140.29) | 308.87 (108.57) | 290.44 (125.60) | 253.03 (100.77) |
| Max T-wave amplitude lead II (2.5th-97.5th) | 155.25 - 687.12 | 115.83 - 545.18 | 77.88 - 562.77 | 78 - 467.2 |
| Min T-wave amplitude lead II (mean(SD)) | 0.00 (0.00) | 0.00 (0.00) | -1.33 (25.60) | -0.47 (8.18) |
| Min T-wave amplitude lead II (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead III (mean(SD)) | 113.73 (107.21) | 74.48 (74.12) | 87.72 (98.51) | 55.53 (67.72) |
| Max T-wave amplitude lead III (2.5th-97.5th) | 0 - 343.38 | 0 - 241.18 | 0 - 321.12 | 0 - 228.15 |
| Min T-wave amplitude lead III (mean(SD)) | -31.52 (58.65) | -22.61 (45.12) | -29.50 (53.90) | -29.14 (48.35) |
| Min T-wave amplitude lead III (2.5th-97.5th) | -214.75 - 0 | -156.17 - 0 | -192.12 - 0 | -164.15 - 0 |
| Max T-wave amplitude lead aVR (mean(SD)) | 0.00 (0.00) | 0.00 (0.00) | 1.04 (19.97) | 0.27 (5.01) |
| Max T-wave amplitude lead aVR (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Min T-wave amplitude lead aVR (mean(SD)) | -334.79 (101.64) | -281.89 (86.57) | -259.75 (98.35) | -237.51 (81.31) |
| Min T-wave amplitude lead aVR (2.5th-97.5th) | -579.25 - -163.88 | -472.58 - -136.47 | -459.65 - -86 | -408.15 - -93.55 |
| Max T-wave amplitude lead aVL (mean(SD)) | 120.70 (93.43) | 108.11 (72.97) | 98.87 (86.61) | 104.09 (69.90) |
| Max T-wave amplitude lead aVL (2.5th-97.5th) | 0 - 342.62 | 0 - 265.88 | 0 - 310.6 | 0 - 251.75 |
| Min T-wave amplitude lead aVL (mean(SD)) | -5.68 (19.24) | -1.69 (9.90) | -9.12 (26.00) | -3.01 (14.01) |
| Min T-wave amplitude lead aVL (2.5th-97.5th) | -61.5 - 0 | -37.7 - 0 | -92.47 - 0 | -52 - 0 |
| Max T-wave amplitude lead aVF (mean(SD)) | 233.13 (126.72) | 182.79 (91.18) | 178.08 (112.41) | 143.51 (84.85) |
| Max T-wave amplitude lead aVF (2.5th-97.5th) | 0 - 477.12 | 0 - 383.23 | 0 - 445.95 | 0 - 324.55 |
| Min T-wave amplitude lead aVF (mean(SD)) | -1.08 (7.67) | -0.90 (7.59) | -2.18 (20.57) | -2.50 (12.87) |
| Min T-wave amplitude lead aVF (2.5th-97.5th) | 0 - 0 | 0 - 0 | -22.82 - 0 | -40.45 - 0 |
| Max T-wave amplitude lead V1 (mean(SD)) | 125.86 (144.36) | 35.39 (43.66) | 105.50 (112.86) | 43.83 (53.83) |
| Max T-wave amplitude lead V1 (2.5th-97.5th) | 0 - 502.25 | 0 - 142.53 | 0 - 429.27 | 0 - 191.15 |
| Min T-wave amplitude lead V1 (mean(SD)) | -67.23 (88.99) | -110.34 (78.64) | -48.97 (69.21) | -78.59 (71.18) |
| Min T-wave amplitude lead V1 (2.5th-97.5th) | -297.12 - 0 | -278.05 - 0 | -242 - 0 | -233.3 - 0 |
| Max T-wave amplitude lead V2 (mean(SD)) | 675.95 (286.17) | 365.95 (184.49) | 579.59 (257.95) | 348.05 (182.74) |
| Max T-wave amplitude lead V2 (2.5th-97.5th) | 161.75 - 1302.12 | 29.7 - 745.58 | 91.63 - 1133.55 | 46.1 - 733.45 |
| Min T-wave amplitude lead V2 (mean(SD)) | -2.42 (25.02) | -4.11 (21.00) | -3.12 (24.41) | -3.56 (18.41) |
| Min T-wave amplitude lead V2 (2.5th-97.5th) | 0 - 0 | -61.22 - 0 | -25.3 - 0 | -53.05 - 0 |
| Max T-wave amplitude lead V3 (mean(SD)) | 756.51 (312.29) | 388.03 (194.23) | 645.17 (271.75) | 348.53 (186.87) |
| Max T-wave amplitude lead V3 (2.5th-97.5th) | 284.38 - 1359.25 | 77.65 - 782.75 | 169.52 - 1204.3 | 61.4 - 787.45 |
| Min T-wave amplitude lead V3 (mean(SD)) | -0.94 (15.59) | -1.44 (17.10) | -4.38 (57.12) | -4.20 (35.96) |
| Min T-wave amplitude lead V3 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | -35.45 - 0 |
| Max T-wave amplitude lead V4 (mean(SD)) | 690.46 (308.64) | 393.67 (171.54) | 559.25 (269.11) | 333.71 (171.79) |
| Max T-wave amplitude lead V4 (2.5th-97.5th) | 199 - 1385.25 | 118.6 - 787.28 | 103.7 - 1184.9 | 63.85 - 729.45 |
| Min T-wave amplitude lead V4 (mean(SD)) | -0.25 (4.21) | -0.54 (8.58) | -7.42 (93.83) | -3.65 (47.13) |
| Min T-wave amplitude lead V4 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V5 (mean(SD)) | 510.65 (221.06) | 350.30 (129.90) | 410.53 (206.16) | 290.74 (137.86) |
| Max T-wave amplitude lead V5 (2.5th-97.5th) | 143 - 1087.75 | 132.82 - 648.88 | 60.93 - 837.12 | 63.7 - 595.3 |
| Min T-wave amplitude lead V5 (mean(SD)) | -0.18 (3.07) | -0.11 (2.34) | -5.14 (58.83) | -2.44 (36.10) |
| Min T-wave amplitude lead V5 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V6 (mean(SD)) | 355.96 (166.58) | 278.62 (99.76) | 278.84 (136.92) | 235.14 (103.57) |
| Max T-wave amplitude lead V6 (2.5th-97.5th) | 122.75 - 697.88 | 122 - 507.7 | 0 - 583.42 | 69.4 - 455.9 |
| Min T-wave amplitude lead V6 (mean(SD)) | 0.00 (0.00) | 0.00 (0.00) | -2.42 (31.56) | -1.08 (17.84) |
| Min T-wave amplitude lead V6 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |

Sub-Saharan Western African

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 127 | 313 | 170 | 285 |
| Max T-wave amplitude lead I (mean(SD)) | 282.97 (105.48) | 248.22 (84.99) | 253.21 (92.10) | 235.63 (81.95) |
| Max T-wave amplitude lead I (2.5th-97.5th) | 110.65 - 512.2 | 102.8 - 415.6 | 100.22 - 431 | 89.4 - 418.2 |
| Min T-wave amplitude lead I (mean(SD)) | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) |
| Min T-wave amplitude lead I (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead II (mean(SD)) | 358.49 (139.82) | 315.09 (113.84) | 299.42 (116.45) | 270.44 (105.61) |
| Max T-wave amplitude lead II (2.5th-97.5th) | 120.95 - 689.05 | 111.6 - 537.8 | 80.93 - 549.4 | 81.2 - 480.6 |
| Min T-wave amplitude lead II (mean(SD)) | -0.32 (3.64) | 0.00 (0.00) | 0.00 (0.00) | -0.85 (9.99) |
| Min T-wave amplitude lead II (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead III (mean(SD)) | 106.56 (102.76) | 86.23 (81.52) | 79.21 (85.28) | 59.63 (68.31) |
| Max T-wave amplitude lead III (2.5th-97.5th) | 0 - 338.95 | 0 - 268.8 | 0 - 277.65 | 0 - 231.9 |
| Min T-wave amplitude lead III (mean(SD)) | -30.87 (52.36) | -20.51 (40.29) | -31.80 (52.24) | -28.01 (43.69) |
| Min T-wave amplitude lead III (2.5th-97.5th) | -197.3 - 0 | -150.4 - 0 | -163 - 0 | -142.9 - 0 |
| Max T-wave amplitude lead aVR (mean(SD)) | 0.00 (0.00) | 0.00 (0.00) | 0.00 (0.00) | 0.36 (4.77) |
| Max T-wave amplitude lead aVR (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Min T-wave amplitude lead aVR (mean(SD)) | -318.27 (105.75) | -280.28 (87.02) | -274.02 (89.33) | -251.73 (83.18) |
| Min T-wave amplitude lead aVR (2.5th-97.5th) | -548.65 - -126.65 | -465.2 - -131 | -458.88 - -135.45 | -394.6 - -98.6 |
| Max T-wave amplitude lead aVL (mean(SD)) | 114.83 (88.91) | 98.32 (68.57) | 113.12 (77.03) | 105.34 (66.16) |
| Max T-wave amplitude lead aVL (2.5th-97.5th) | 0 - 303.7 | 0 - 243 | 0 - 269.88 | 0 - 263.8 |
| Min T-wave amplitude lead aVL (mean(SD)) | -3.02 (18.16) | -2.92 (13.53) | -4.58 (18.34) | -1.44 (8.08) |
| Min T-wave amplitude lead aVL (2.5th-97.5th) | -34.55 - 0 | -50.6 - 0 | -64.55 - 0 | -29.2 - 0 |
| Max T-wave amplitude lead aVF (mean(SD)) | 222.23 (120.42) | 193.90 (96.70) | 177.66 (103.48) | 155.10 (88.56) |
| Max T-wave amplitude lead aVF (2.5th-97.5th) | 5.7 - 498.1 | 0 - 387.2 | 0 - 406.85 | 0 - 347.7 |
| Min T-wave amplitude lead aVF (mean(SD)) | -1.55 (9.00) | -1.03 (5.89) | -1.84 (10.44) | -2.74 (12.45) |
| Min T-wave amplitude lead aVF (2.5th-97.5th) | -22.1 - 0 | -23.4 - 0 | -26.32 - 0 | -31.9 - 0 |
| Max T-wave amplitude lead V1 (mean(SD)) | 139.04 (133.00) | 33.08 (43.66) | 135.56 (126.32) | 40.83 (42.75) |
| Max T-wave amplitude lead V1 (2.5th-97.5th) | 0 - 466.95 | 0 - 125.6 | 0 - 397.13 | 0 - 144.9 |
| Min T-wave amplitude lead V1 (mean(SD)) | -61.80 (86.78) | -113.76 (83.50) | -42.86 (63.03) | -82.94 (69.92) |
| Min T-wave amplitude lead V1 (2.5th-97.5th) | -265.8 - 0 | -286.8 - 0 | -215.72 - 0 | -234.9 - 0 |
| Max T-wave amplitude lead V2 (mean(SD)) | 614.55 (253.93) | 336.98 (166.28) | 647.36 (268.11) | 323.07 (168.80) |
| Max T-wave amplitude lead V2 (2.5th-97.5th) | 134.45 - 1084.35 | 59 - 713 | 216 - 1201.25 | 49.2 - 693.9 |
| Min T-wave amplitude lead V2 (mean(SD)) | -1.97 (16.75) | -6.16 (32.25) | -0.38 (4.99) | -2.77 (18.19) |
| Min T-wave amplitude lead V2 (2.5th-97.5th) | 0 - 0 | -105.6 - 0 | 0 - 0 | -38.5 - 0 |
| Max T-wave amplitude lead V3 (mean(SD)) | 649.53 (256.67) | 367.51 (181.43) | 664.96 (263.37) | 337.55 (175.58) |
| Max T-wave amplitude lead V3 (2.5th-97.5th) | 249.45 - 1185.45 | 69.4 - 793.6 | 221 - 1235 | 74.5 - 734.4 |
| Min T-wave amplitude lead V3 (mean(SD)) | -2.62 (17.84) | -1.57 (12.07) | 0.00 (0.00) | -3.18 (20.44) |
| Min T-wave amplitude lead V3 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | -39.6 - 0 |
| Max T-wave amplitude lead V4 (mean(SD)) | 617.13 (260.79) | 397.88 (176.77) | 555.58 (241.87) | 347.32 (168.85) |
| Max T-wave amplitude lead V4 (2.5th-97.5th) | 192.75 - 1172.25 | 114.8 - 779.6 | 175.28 - 1133.75 | 75.7 - 708.3 |
| Min T-wave amplitude lead V4 (mean(SD)) | -1.02 (8.36) | -0.66 (7.32) | -0.85 (11.04) | -2.90 (34.31) |
| Min T-wave amplitude lead V4 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V5 (mean(SD)) | 480.14 (197.20) | 353.47 (134.87) | 409.10 (180.37) | 306.28 (142.73) |
| Max T-wave amplitude lead V5 (2.5th-97.5th) | 137.25 - 865.65 | 122.6 - 639 | 103.22 - 823.3 | 68.6 - 583.9 |
| Min T-wave amplitude lead V5 (mean(SD)) | -1.37 (15.44) | -0.11 (1.98) | -2.44 (15.79) | -1.86 (20.79) |
| Min T-wave amplitude lead V5 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V6 (mean(SD)) | 344.60 (143.14) | 281.00 (102.17) | 282.98 (129.45) | 247.88 (113.82) |
| Max T-wave amplitude lead V6 (2.5th-97.5th) | 119.15 - 625.5 | 108.2 - 489 | 41.23 - 574.2 | 74.3 - 483.7 |
| Min T-wave amplitude lead V6 (mean(SD)) | -0.39 (4.44) | 0.00 (0.00) | -0.91 (9.55) | -0.74 (7.35) |
| Min T-wave amplitude lead V6 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |

Turkish

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 513 | 735 | 381 | 445 |
| Max T-wave amplitude lead I (mean(SD)) | 282.40 (102.17) | 241.46 (83.60) | 240.94 (89.03) | 226.27 (84.53) |
| Max T-wave amplitude lead I (2.5th-97.5th) | 106.4 - 512.4 | 101.7 - 410.65 | 76 - 416 | 74.9 - 412.8 |
| Min T-wave amplitude lead I (mean(SD)) | -0.10 (2.25) | 0.00 (0.00) | -0.07 (1.43) | -0.13 (1.92) |
| Min T-wave amplitude lead I (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead II (mean(SD)) | 368.32 (131.91) | 307.29 (101.37) | 277.21 (97.48) | 248.28 (81.01) |
| Max T-wave amplitude lead II (2.5th-97.5th) | 131.2 - 651.4 | 137.35 - 510.3 | 109 - 501.5 | 98.3 - 419 |
| Min T-wave amplitude lead II (mean(SD)) | -0.38 (7.50) | -0.24 (3.25) | -0.15 (2.87) | -0.27 (3.55) |
| Min T-wave amplitude lead II (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead III (mean(SD)) | 114.52 (113.57) | 87.23 (82.34) | 66.64 (79.60) | 49.35 (57.85) |
| Max T-wave amplitude lead III (2.5th-97.5th) | 0 - 399.4 | 0 - 274.55 | 0 - 261.5 | 0 - 183.9 |
| Min T-wave amplitude lead III (mean(SD)) | -25.04 (49.96) | -19.96 (40.14) | -29.52 (47.15) | -27.52 (45.30) |
| Min T-wave amplitude lead III (2.5th-97.5th) | -173.2 - 0 | -134 - 0 | -156.5 - 0 | -157.6 - 0 |
| Max T-wave amplitude lead aVR (mean(SD)) | 0.13 (3.00) | 0.00 (0.00) | 0.11 (2.10) | 0.06 (1.19) |
| Max T-wave amplitude lead aVR (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Min T-wave amplitude lead aVR (mean(SD)) | -323.45 (96.00) | -272.88 (77.51) | -257.62 (77.21) | -235.94 (71.35) |
| Min T-wave amplitude lead aVR (2.5th-97.5th) | -509.6 - -143.4 | -431 - -143.4 | -427.5 - -113.5 | -383.8 - -105 |
| Max T-wave amplitude lead aVL (mean(SD)) | 111.36 (88.92) | 94.78 (73.14) | 109.12 (77.36) | 106.01 (71.08) |
| Max T-wave amplitude lead aVL (2.5th-97.5th) | 0 - 315.2 | 0 - 258.95 | 0 - 272.5 | 0 - 262.9 |
| Min T-wave amplitude lead aVL (mean(SD)) | -9.17 (27.01) | -3.35 (14.09) | -4.33 (18.02) | -1.70 (8.57) |
| Min T-wave amplitude lead aVL (2.5th-97.5th) | -98.2 - 0 | -55.65 - 0 | -60.5 - 0 | -36.6 - 0 |
| Max T-wave amplitude lead aVF (mean(SD)) | 231.61 (122.42) | 188.72 (91.92) | 159.69 (89.43) | 137.38 (69.90) |
| Max T-wave amplitude lead aVF (2.5th-97.5th) | 25 - 519.6 | 0 - 373.6 | 0 - 364 | 0 - 285 |
| Min T-wave amplitude lead aVF (mean(SD)) | -1.43 (12.02) | -0.65 (5.87) | -1.32 (9.26) | -1.15 (6.89) |
| Min T-wave amplitude lead aVF (2.5th-97.5th) | 0 - 0 | 0 - 0 | -11.5 - 0 | -24.8 - 0 |
| Max T-wave amplitude lead V1 (mean(SD)) | 99.58 (103.99) | 27.59 (45.05) | 101.27 (104.43) | 30.88 (42.06) |
| Max T-wave amplitude lead V1 (2.5th-97.5th) | 0 - 380.8 | 0 - 142.3 | 0 - 372 | 0 - 127.4 |
| Min T-wave amplitude lead V1 (mean(SD)) | -53.21 (73.19) | -94.31 (71.12) | -34.21 (55.77) | -69.39 (62.31) |
| Min T-wave amplitude lead V1 (2.5th-97.5th) | -239.4 - 0 | -243.65 - 0 | -182 - 0 | -202.9 - 0 |
| Max T-wave amplitude lead V2 (mean(SD)) | 691.73 (267.37) | 399.26 (192.31) | 632.41 (263.85) | 351.55 (164.99) |
| Max T-wave amplitude lead V2 (2.5th-97.5th) | 194.4 - 1226 | 40.7 - 790.4 | 188.5 - 1170.5 | 65.1 - 720.9 |
| Min T-wave amplitude lead V2 (mean(SD)) | -1.21 (12.95) | -2.96 (20.29) | -0.12 (2.31) | -2.27 (21.27) |
| Min T-wave amplitude lead V2 (2.5th-97.5th) | 0 - 0 | -30.85 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V3 (mean(SD)) | 766.14 (285.51) | 444.00 (203.74) | 668.20 (268.93) | 359.59 (181.36) |
| Max T-wave amplitude lead V3 (2.5th-97.5th) | 288 - 1349.2 | 109.05 - 883.25 | 193 - 1207 | 80.3 - 736.9 |
| Min T-wave amplitude lead V3 (mean(SD)) | -0.27 (6.00) | -0.59 (7.54) | -1.02 (15.20) | -1.82 (19.38) |
| Min T-wave amplitude lead V3 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V4 (mean(SD)) | 672.19 (271.30) | 427.72 (177.34) | 557.59 (233.23) | 335.77 (158.26) |
| Max T-wave amplitude lead V4 (2.5th-97.5th) | 223.6 - 1243.2 | 129 - 821.95 | 170 - 1089.5 | 75.2 - 704 |
| Min T-wave amplitude lead V4 (mean(SD)) | 0.00 (0.00) | -0.06 (1.51) | -2.47 (33.10) | -0.91 (10.74) |
| Min T-wave amplitude lead V4 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V5 (mean(SD)) | 497.22 (191.62) | 368.16 (135.33) | 405.74 (163.45) | 298.13 (126.03) |
| Max T-wave amplitude lead V5 (2.5th-97.5th) | 155.6 - 898.8 | 139.7 - 669.95 | 117 - 799 | 78.2 - 563 |
| Min T-wave amplitude lead V5 (mean(SD)) | -0.15 (3.44) | -0.03 (0.77) | -1.99 (26.46) | -0.54 (4.67) |
| Min T-wave amplitude lead V5 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V6 (mean(SD)) | 338.08 (128.59) | 282.08 (98.56) | 274.15 (107.59) | 237.18 (93.48) |
| Max T-wave amplitude lead V6 (2.5th-97.5th) | 113.4 - 606 | 119.35 - 521 | 83.5 - 535.5 | 87.2 - 453.2 |
| Min T-wave amplitude lead V6 (mean(SD)) | -0.51 (8.22) | -0.10 (2.02) | -0.51 (7.90) | -0.37 (3.75) |
| Min T-wave amplitude lead V6 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |

Moroccan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Male <40 | Female <40 | Male ≥ 40 | Female ≥ 40 |
| n | 495 | 1032 | 369 | 581 |
| Max T-wave amplitude lead I (mean(SD)) | 311.18 (109.18) | 265.10 (91.59) | 269.74 (92.72) | 248.29 (87.89) |
| Max T-wave amplitude lead I (2.5th-97.5th) | 131 - 547 | 123 - 491.22 | 122 - 465.6 | 105.5 - 427.5 |
| Min T-wave amplitude lead I (mean(SD)) | -0.06 (1.26) | 0.00 (0.00) | -0.59 (11.30) | -0.41 (7.66) |
| Min T-wave amplitude lead I (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead II (mean(SD)) | 401.22 (134.06) | 344.64 (105.85) | 326.37 (114.79) | 292.34 (94.58) |
| Max T-wave amplitude lead II (2.5th-97.5th) | 173 - 682 | 157.32 - 557.45 | 129 - 563.6 | 121 - 490.5 |
| Min T-wave amplitude lead II (mean(SD)) | -0.29 (4.02) | -0.09 (1.80) | -0.23 (4.42) | -0.23 (3.47) |
| Min T-wave amplitude lead II (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead III (mean(SD)) | 121.06 (113.91) | 97.55 (85.14) | 84.28 (95.38) | 67.83 (71.59) |
| Max T-wave amplitude lead III (2.5th-97.5th) | 0 - 405.2 | 0 - 289.45 | 0 - 309.8 | 0 - 234 |
| Min T-wave amplitude lead III (mean(SD)) | -25.88 (54.54) | -15.65 (35.22) | -25.78 (44.84) | -23.48 (45.56) |
| Min T-wave amplitude lead III (2.5th-97.5th) | -194.65 - 0 | -122.23 - 0 | -136.8 - 0 | -159 - 0 |
| Max T-wave amplitude lead aVR (mean(SD)) | 0.05 (1.12) | 0.00 (0.00) | 0.40 (7.70) | 0.23 (3.86) |
| Max T-wave amplitude lead aVR (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Min T-wave amplitude lead aVR (mean(SD)) | -354.26 (99.09) | -303.57 (84.85) | -296.59 (86.66) | -269.18 (77.37) |
| Min T-wave amplitude lead aVR (2.5th-97.5th) | -552.6 - -179 | -489.9 - -155.55 | -466.4 - -149.2 | -428.5 - -128.5 |
| Max T-wave amplitude lead aVL (mean(SD)) | 123.36 (96.61) | 99.58 (75.47) | 114.04 (80.62) | 106.84 (75.04) |
| Max T-wave amplitude lead aVL (2.5th-97.5th) | 0 - 337.95 | 0 - 266.22 | 0 - 275.6 | 0 - 273.5 |
| Min T-wave amplitude lead aVL (mean(SD)) | -7.84 (26.42) | -4.06 (15.35) | -6.22 (23.57) | -2.82 (13.17) |
| Min T-wave amplitude lead aVL (2.5th-97.5th) | -101.3 - 0 | -59.67 - 0 | -77.6 - 0 | -46.5 - 0 |
| Max T-wave amplitude lead aVF (mean(SD)) | 249.65 (124.69) | 214.05 (91.86) | 194.73 (104.76) | 170.56 (82.51) |
| Max T-wave amplitude lead aVF (2.5th-97.5th) | 39.7 - 533 | 61 - 400.68 | 24.2 - 409.8 | 0 - 342 |
| Min T-wave amplitude lead aVF (mean(SD)) | -0.50 (6.19) | -0.50 (4.75) | -0.33 (3.21) | -0.81 (6.30) |
| Min T-wave amplitude lead aVF (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V1 (mean(SD)) | 125.12 (125.08) | 38.22 (50.98) | 123.03 (110.06) | 52.86 (62.89) |
| Max T-wave amplitude lead V1 (2.5th-97.5th) | 0 - 415.65 | 0 - 181.68 | 0 - 388.8 | 0 - 207.5 |
| Min T-wave amplitude lead V1 (mean(SD)) | -50.94 (72.77) | -88.91 (73.29) | -33.71 (52.52) | -64.55 (66.36) |
| Min T-wave amplitude lead V1 (2.5th-97.5th) | -236.95 - 0 | -235.45 - 0 | -170.8 - 0 | -205 - 0 |
| Max T-wave amplitude lead V2 (mean(SD)) | 792.55 (280.08) | 472.86 (191.16) | 717.48 (276.42) | 438.92 (192.52) |
| Max T-wave amplitude lead V2 (2.5th-97.5th) | 261.25 - 1420.85 | 125 - 870.45 | 231 - 1289.4 | 99.5 - 853 |
| Min T-wave amplitude lead V2 (mean(SD)) | -0.79 (9.62) | -1.52 (14.47) | -0.86 (14.45) | -1.12 (13.40) |
| Min T-wave amplitude lead V2 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V3 (mean(SD)) | 816.16 (270.24) | 497.78 (200.88) | 747.62 (283.06) | 437.51 (199.13) |
| Max T-wave amplitude lead V3 (2.5th-97.5th) | 325.35 - 1392.95 | 145.78 - 927.38 | 263.2 - 1359.8 | 97 - 850.5 |
| Min T-wave amplitude lead V3 (mean(SD)) | -0.18 (3.91) | -0.10 (2.22) | -2.54 (38.92) | -1.15 (14.84) |
| Min T-wave amplitude lead V3 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V4 (mean(SD)) | 701.04 (251.67) | 463.96 (175.68) | 632.39 (257.04) | 395.06 (164.98) |
| Max T-wave amplitude lead V4 (2.5th-97.5th) | 280.4 - 1214.55 | 169.1 - 847.22 | 202.6 - 1205.6 | 107.5 - 745.5 |
| Min T-wave amplitude lead V4 (mean(SD)) | -0.38 (8.49) | 0.00 (0.00) | -2.43 (37.28) | -0.71 (11.00) |
| Min T-wave amplitude lead V4 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V5 (mean(SD)) | 526.17 (195.18) | 397.59 (137.64) | 470.27 (194.50) | 338.78 (128.24) |
| Max T-wave amplitude lead V5 (2.5th-97.5th) | 174.35 - 982.3 | 164.88 - 713.22 | 147.6 - 916.6 | 105.5 - 605 |
| Min T-wave amplitude lead V5 (mean(SD)) | -0.23 (5.21) | -0.02 (0.72) | -1.30 (22.45) | -1.23 (13.20) |
| Min T-wave amplitude lead V5 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |
| Max T-wave amplitude lead V6 (mean(SD)) | 361.87 (137.41) | 308.55 (105.21) | 322.18 (136.53) | 263.57 (97.34) |
| Max T-wave amplitude lead V6 (2.5th-97.5th) | 130.4 - 672.45 | 139 - 530 | 120.2 - 663 | 104 - 461.5 |
| Min T-wave amplitude lead V6 (mean(SD)) | -0.29 (3.78) | -0.19 (5.34) | -0.57 (8.48) | -0.74 (8.53) |
| Min T-wave amplitude lead V6 (2.5th-97.5th) | 0 - 0 | 0 - 0 | 0 - 0 | 0 - 0 |