**Supplementary Table 2.** Age- and sex-specific pediatric reference intervals for Roche immunoassays on the e602 Immunology Analyzer (Conventional Units)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Analyte | Units | Female Reference Interval | | | | | | Male Reference Interval | | | | | | | |
| **Age** | **Lower Limit** | **Upper Limit** | **n** | **Lower 90% Confidence Interval** | **Upper 90% Confidence Interval** | **Age** | **Lower Limit** | **Upper Limit** | | **n** | **Lower 90% Confidence Interval** | | **Upper 90% Confidence Interval** |
| AFP | ng/mL | 0 to <1 month | NA | >1210 | 42 | NA | NA | 0 to <1 month | NA | >1210 | | 42 | NA | | NA |
|  | 1 to <6 months | 48 | >1210 | 39 | NA | NA | 1 to <6 months | 48 | >1210 | | 39 | NA | | NA |
|  |  | 6 to <12 months | 3.5 | 69 | 41 | (1.4, 5.0) | (59, 80) | 6 to <12 months | 3.5 | 69 | | 41 | (1.4, 5.0) | | (59, 80) |
|  |  | 1 to < 19 years | <0.6 | 7.0 | 495 | NA | (5.2 , 8.3) | 1 to < 19 years | <0.6 | 7.0 | | 495 | NA | | (5.2 , 8.3) |
| Cortisol | µg/dL | 0 to <1 month | 0.5 | 14 | 50 | (0.4, 0.7) | (11, 18) | 0 to <1 month | 0.5 | 14 | 50 | | | (0.4, 0.7) | (11, 18) | |
|  |  | 1 to <12 months | 0.7 | 20 | 89 | (1.0, 17) | (17, 23) | 1 to <12 months | 0.7 | 20 | 89 | | | (1.0, 17) | (17, 23) | |
|  |  | 1 to <12 years | 2.4 | 15 | 250 | (2.2, 2.9) | (13, 15) | 1 to <12 years | 2.4 | 15 | 250 | | | (2.2, 2.9) | (13, 15) | |
|  |  | 12 to <19 years | 3.6 | 17 | 250 | (3.6, 4.4) | (16, 20) | 12 to <19 years | 3.6 | 17 | 250 | | | (3.6, 4.4) | (16, 20) | |
| Estradiol | pg/mL | 0 to <1 month | 2.54 | 96 | 50 | (2.12, 3.87) | (80.1, 112) | 0 to <1 month | 2.54 | 96 | 50 | | | (2.12, 3.87) | (80.1, 112) | |
|  |  | 1 month to <10 years | <4.90 | NA | 267 | NA | NA | 1 month to <10 years | <4.90 | NA | 267 | | | NA | NA | |
|  |  | 10 to <14 years | <4.90 | 68.1 | 76 | NA | (60.7, 75.6) | 10 to <19 years | <4.90 | 36.5 | 157 | | | NA | (31.3, 45.2) | |
|  |  | 14 to <19 years | 14.6 | 249 | 86 | (12.1, 18.0) | (213, 289) |  |  |  |  | | |  |  | |
| Ferritin | ng/mL | 0 to <1 month | 150 | 973 | 47 | (124, 174) | (841, 1124) | 0 to <1 month | 150 | 973 | | 47 | (124, 174) | | (841, 1124) |
|  | 1 to <6 months | 8.46 | 580 | 47 | (1.56, 20.9) | (472, 696) | 1 to <6 months | 8.46 | 580 | | 47 | (1.56, 20.9) | | (472, 696) |
|  | 6 months to <15 years | 14.0 | 101 | 372 | (13.0, 16.0) | (93, 109) | 6 months to <15 years | 14.0 | 101 | | 372 | (13.0, 16.0) | | (93, 109) |
|  | 15-<19 yearsa | 3.88 | 114 | 75 | (2.15, 6.20) | (99.6, 128) | 15-<19 yearsa | 20.9 | 173 | | 73 | (17.4, 25.2) | | (153, 193) |
| Folate | ng/mL | 0 to <7 years | 7.61 | >20.0 | 208 | (5.96, 10.3) | NA | 0 to <7 years | 7.61 | >20.0 | | 208 | (5.96, 10.3) | | NA |
|  |  | 7 to <12 years | 16.7 | >20.0 | 132 | (9.90, 17.6) | NA | 7 to <12 years | 16.7 | >20.0 | | 132 | (9.90, 17.6) | | NA |
|  |  | 12 to <19 years | 7.84 | >20.0 | 233 | (6.17, 9.61) | NA | 12 to <19 years | 7.84 | >20.0 | | 233 | (6.17, 9.61) | | NA |
| FSH | mIU/mL | 0 to <1 years | 1.6 | 19 | 58 | (1.4, 1.8) | (15, 23) | 0 to <1 years | 0.1 | 3.2 | | 69 | (0.0, 0.2) | | (2.8, 3.4) |
|  |  | 1 to <9 years | 0.7 | 5.8 | 67 | (0.6, 0.9) | (4.8, 6.7) | 1 to <9 years | 0.2 | 2.1 | | 80 | (0.1, 0.2) | | (1.9, 2.4) |
|  |  | 9 to <12 years | 0.5 | 7.6 | 55 | (0.3, 0.7) | (6.7, 8.5) | 9 to <12 years | 0.4 | 4.2 | | 42 | (0.3, 0.5) | | (3.3, 5.2) |
|  |  | 12 to <19 years | 0.9 | 9.1 | 122 | (0.4, 1.2) | (8.2, 11) | 12 to <19 years | 0.9 | 7.1 | | 125 | (0.9, 1.3) | | (5.5, 7.9) |
| FT3 | pg/mL | 0 to <1 month | 2.73 | 8.46 | 48 | (2.41, 3.12) | (7.81, 9.11) | 0 to <1 month | 2.73 | 8.46 | | 48 | (2.41, 3.12) | | (7.81, 9.11) |
|  |  | 1 to <12 monthsb | 3.39 | 5.60 | 89 | (3.19, 3.52) | (5.40, 5.73) | 1 to <12 monthsb | 3.39 | 5.60 | | 89 | (3.19, 3.52) | | (5.40, 5.73) |
|  |  | 1 to <14 years | 2.99 | 5.08 | 318 | (2.80, 3.13) | (4.95, 5.21) | 1 to <14 years | 2.99 | 5.08 | | 318 | (2.80, 3.13) | | (4.95, 5.21) |
|  |  | 14 to <19 years | 3.26 | 5.34 | 170 | (3.26, 3.52) | (5.14, 5.60) | 14 to <19 years | 3.26 | 5.34 | | 170 | (3.26, 3.52) | | (5.14, 5.60) |
| FT4 | ng/dL | 0 to <1 month | 1.24 | 3.89 | 46 | (1.24, 1.32) | (3.57, 4.27) | 0 to <1 month | 1.24 | 3.89 | | 46 | (1.24, 1.32) | | (3.57, 4.27) |
|  |  | 1 to <12 monthsb | 1.09 | 1.71 | 79 | (1.09, 1.17) | (1.63, 1.79) | 1 to <12 monthb | 1.09 | 1.71 | | 79 | (1.09, 1.17) | | (1.63, 1.79) |
|  |  | 1 to <19 years | 1.01 | 1.63 | 491 | (1.01, 1.01) | (1.55, 1.63) | 1 to <19 yrs | 1.01 | 1.63 | | 491 | (1.01, 1.01) | | (1.55, 1.63) |
| LH | mIU/mL | 0 to <6 months | <0.1 | 8.2 | 49 | NA | (8.0, 12) | 0-<6 months | <0.1 | 6.2 | | 40 | NA | | (5.5, 7.0) |
|  |  | 6 months to <11 years | <0.1 | 1.3 | 245 | NA | (0.6, 2.5) | 6 months to <11 years | <0.1 | 1.3 | | 245 | NA | | (0.6, 2.5) |
|  |  | 11 to <14 years | <0.1 | 10 | 62 | NA | (8.8, 12) | 11 to <14 years | <0.1 | 2.0 | | 53 | NA | | (1.8, 2.3) |
|  |  | 14 to <19 years | 0.4 | 25 | 83 | (0.2, 0.7) | (22, 28) | 14 to <19 years | 1.3 | 8.4 | | 86 | (1.0, 1.5) | | (7.8, 9.1) |
| Prolactin | ng/mL | 0 to <1 month | 1.1 | 470 | 50 | (0.1, 7.0) | NA | 0 to <1 month | 1.1 | 470 | | 50 | (0.1, 7.0) | | NA |
|  |  | 1 to <12 months | 5.2 | 60 | 90 | (4.3, 6.0) | (53, 68) | 1 to <12 months | 5.2 | 60 | | 90 | (4.3, 6.0) | | (53, 68) |
|  |  | 1 to <19 years | 3.0 | 25 | 478 | (3.0, 3.0) | (23, 27) | 1 to <19 years | 3.0 | 25 | | 478 | (3.0, 3.0) | | (23, 27) |
| Progesterone | ng/mL | 0 to <1 month | <0.3 | 242 | 51 | NA | (202, 288) | 0 to <1 month | <0.3 | 242 | | 51 | NA | | (202, 288) |
|  |  | 1 months to <12 years | <0.3 | 0.9 | 176 | NA | (0.9, 4.1) | 1 month to <19 years | 0.3 | 0.9 | | 294 | NA | | (0.9, 2.5) |
|  |  | 12-<19 yrs | <0.3 | 12 | 124 | NA | (7, 18) |  |  |  | |  |  | |  |
| PTH | pg/mL | 0 to <1 month | 6.60 | 59.4 | 50 | (4.72, 8.49) | (51.9, 67.0) | 0 to <1 month | 6.60 | 59.4 | | 50 | (4.72, 8.49) | | (51.9, 67.0) |
|  |  | 1 to <12 months | 8.49 | 61.3 | 91 | (7.54, 10.4) | (53.8, 68.8) | 1 to <12 months | 8.49 | 61.3 | | 91 | (7.54, 10.4) | | (53.8, 68.8) |
|  |  | 1 to <11years | 11.3 | 60 | 199 | (11.3, 13.2) | (50.0, 69.8) | 1 to <11years | 11.3 | 60 | | 199 | (11.3, 13.2) | | (50.0, 69.8) |
|  |  | 11 to <19 years | 15.1 | 68 | 299 | (12.3, 16.0) | (63.2, 83.0) | 11 to <19 years | 15.1 | 68 | | 299 | (12.3, 16.0) | | (63.2, 83.0) |
| SHBG | nmol/L | 0 to <1 month | 16 | >200 | 50 | (10.7 , 22.2) | (213 , 272) | 0 to <1 month | 16 | >200 | | 50 | (10.7 , 22.2) | | (213 , 272) |
|  |  | 1 month to <13 years | 37.5 | >200 | 378 | (32.9, 47.2) | NA | 1 month to <13 years | 37.5 | >200 | | 378 | (32.9, 47.2) | | NA |
|  |  | 13 to <15 years | 21.1 | 152 | 59 | (17.5, 24.8) | (133, 175) | 13 to <15 years | 21.1 | 152 | | 59 | (17.5, 24.8) | | (133, 175) |
|  |  | 15 to <19 yearsa | 21.6 | 127 | 70 | (17.4, 26.0) | (116, 139) | 15 to <19 yearsa | 12.5 | 60.5 | | 72 | (9.3, 15.5) | | (57.2, 64.6) |
| Testosterone | ng/dL | 0 to <6 months | <2.9 | 346 | 49 | NA | (346, 432) | 0 to <6 months | 5.8 | 548 | | 47 | (0.3, 17) | | (461, 663) |
|  |  | 6 months to <11 yearsb | <2.9 | NA | 247 | NA | NA | 6 months to <11 years | <2.9 | NA | | 247 | NA | | NA |
|  |  | 11 to <19 years | <2.9 | 52 | 150 | NA | (46, 66) | 11 to <15 years | <2.9 | 563 | | 76 | NA | | (461, 667) |
|  |  |  |  |  |  |  |  | 15 to <19 years | 49 | 769 | | 75 | NA | | (717, 829) |
| TSH | mIU/L | 0 to <1 month | 1.23 | 27.2 | 50 | (0.96, 1.63) | (22.8, 32.1) | 0 to <1 month | 1.23 | 27.2 | | 50 | (0.96, 1.63) | | (22.8, 32.1) |
|  |  | 1 to <12 monthsb | 1.03 | 6.80 | 86 | (0.83, 1.28) | (6.30, 7.40) | 1 to <12 monthsb | 1.03 | 6.80 | | 86 | (0.83, 1.28) | | (6.30, 7.40) |
|  |  | 1 to <15 years | 1.12 | 5.01 | 339 | (1.07 , 1.22) | (4.49 , 5.40) | 1 to <15 years | 1.12 | 5.01 | | 339 | (1.07 , 1.22) | | (4.49 , 5.40) |
|  |  | 15 to <19 years | 0.68 | 4.09 | 148 | (0.43, 0.83) | (3.74, 4.62) | 15 to <19 years | 0.68 | 4.09 | | 148 | (0.43, 0.83) | | (3.74, 4.62) |
| TT3 | ng/dL | 0 to <1 years | 126 | 231 | 91 | (120, 133) | (223, 240) | 0 to <1 years | 126 | 231 | | 91 | (120, 133) | | (223, 240) |
|  |  | 1 to <12 years | 111 | 195 | 245 | (106, 115) | (185, 212) | 1 to <12 years | 111 | 195 | | 245 | (106, 115) | | (185, 212) |
|  |  | 12 to <16 years | 86.8 | 177 | 80 | (82.8, 90.5) | (169, 185) | 12 to <16 years | 89.8 | 179 | | 81 | (82.7, 96.5) | | (172, 186) |
|  |  | 16 to <19 years | 81.3 | 155 | 86 | (77.4, 84.8) | (149, 162) | 16 to <19 years | 81.3 | 155 | | 86 | (77.4, 84.8) | | (149, 162) |
| Vitamin B12 | pg/mL | 0 to <1 month | 187 | 1866 | 47 | (141, 244) | (1652, 2113) | 0 to <1 month | 187 | 1866 | | 47 | (141, 244) | | (1652, 2113) |
|  |  | 1 to <12 months | 168 | 1675 | 93 | (145, 206) | (1532, 1845) | 1 to <12 months | 168 | 1675 | | 93 | (145, 206) | | (1532, 1845) |
|  |  | 1 to <12 years | 354 | 1599 | 249 | (332, 401) | (1532, 2006) | 1 to <12 years | 354 | 1599 | | 249 | (332, 401) | | (1532, 2006) |
|  |  | 12 to <19 years | 270 | 1132 | 246 | (249, 295) | (1000, 1255) | 12 to <19 years | 270 | 1132 | | 246 | (249, 295) | | (1000, 1255) |

AFP: alpha fetoprotein, FSH: follicle stimulating hormone, FT3: free triiodothyronine, FT4: free thyroxine, LH: luteinizing hormone, PTH: parathyroid hormone, SHBG: sex hormone-binding globulin, TSH: thyroid stimulating hormone, TT3: total triiodothyronine.

aPartitions were created to highlight a significant sex difference. Age difference was not significant according to Harris & Boyd.

bPartitions were created to highlight the first year of life. Age difference was not significant according to Harris & Boyd.

**Note:** Underlined partitions indicate sex-specific reference intervals. Values below or above analytical measuring range are denoted with “<” or “>”, respectively. Confidence Intervals (CI) could not be computed when at least one of the limits of the CI itself was outside the analytical measuring range or when reference limits were reported as the minimum and maximum of the data interval (denoted as “NA”).