Supplemental Digital Content 5 Absolute number of accelerometry-based estimations of breaks in sedentary behavior and mean differences compared to direct observation.

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| --- | --- | --- | --- |
|  |  | **Non-dominant wrist** | **Dominant wrist** |
|  | **Cut-point** | **SB breaks (mean ± SD)** | **Mean difference****(95% CI)** | **SB breaks (mean ± SD)** | **Mean difference****(95% CI)** |
| **ActiGraph wrist(vertical axis)** | CrouterVA/ROC |  |  |  |  |  |  |
| 5-8y | 167.1 ± 48.8 | 151.4132.0 – 170.7 | 168.1 ± 47.2 | 152.4133.6 – 171.1 |
| 9-12y | 137.8 ± 48.3 | 125.9109.1 – 142.8 | 137.0 ± 44.6 | 125.1109.6 – 140.6 |
| CrouterVA/REG |  |  |  |  |  |  |
| 5-8y | 164.7 ± 42.7 | 148.9131.9 – 148.9 | 170.1 ± 46.1 | 154.3135.8 – 172.8 |
| 9-12y | 134.3 ± 46.6 | 122.4106.2 – 138.7 | 137.4 ± 45.5 | 125.5109.7 – 141.4 |
| ChandlerVA/2015 |  |  |  |  |  |  |
| 5-8y | 166.6 ± 54.0 | 150.8129.3 – 172.3 | 166.7 ± 49.6 | 150.9131.1 – 170.7 |
| 9-12y | 142.0 ± 48.5 | 130.1113.1 – 147.1 | 139.8 ± 43.1 | 127.9112.9 – 142.9 |
| ChandlerVA/2016 |  |  |  |  |  |  |
| 5-8y | 166.6 ± 54.5 | 150.9129.2 – 172.6 | 170.1 ± 48.9 | 154.3134.8 – 173.8 |
| 9-12y | 143.2 ± 46.3 | 131.3115.0 – 147.5 | 140.2 ± 41.9 | 128.3113.6 – 142.9 |
| KimVA |  |  |  |  |  |  |
| 5-8y | 19.3 ± 4.7 | 3.51.3 - 5.7 | 19.8 ± 5.3 | 4.11.8 – 6.4 |
| 9-12y | 15.2 ± 5.6 | 3.31.5 – 5.1 | 15.1 ± 5.2 | 3.21.5 – 4.9 |
| **ActiGraph wrist (vector magnitude)** | CrouterVM/ROC |  |  |  |  |  |  |
| 5-8y | 173.9 ± 50.6 | 158.2138.0 – 178.3 | 176.4 ± 47.0 | 160.6141.9 – 179.4 |
| 9-12y | 150.4 ± 50.6 | 138.3120.4 – 155.9 | 148.1 ± 48.3 | 136.2119.4 – 153.0 |
| CrouterVM/REG |  |  |  |  |  |  |
| 5-8y | 166.9 ± 45.1 | 151.2133.1 – 169.2 | 172.7 ± 46.2 | 156.9138.0 - 175.8 |
| 9-12y | 136.7 ± 43.1 | 124.8109.8 – 139.8 | 141.4 ± 43.6 | 129.5114.3 – 144.7 |
| ChandlerVM |  |  |  |  |  |  |
| 5-8y | 175.6 ± 50.0 | 159.9140.0 – 179.8 | 176.6 ± 47.1 | 160.8141.9 – 179.7 |
| 9-12y | 150.5 ± 51.0 | 138.6120.7 – 156.5 | 146.4 ± 47.8 | 134.5117.9 – 151.2 |
| KimVM |  |  |  |  |  |  |
| 5-8y | 17.2 ± 5.9\* | 1.41.0 – 3.8 | 18.2 ± 5.4\* | 2.40.1 – 4.7 |
| 9-12y | 13.7 ± 5.7\* | 1.80.0 – 3.5 | 13.7 ± 4.7\* | 1.80.2 – 3.5 |
| **GENEActiv wrist(signal vector magnitude)** | PhillipsSVM |  |  |  |  |  |  |
| 5-8y | 436.4 ± 138.0 | 420.6364.5 – 476.7 | 484.6 ± 132.7 | 468.8414.8 – 522.8 |
| 9-12y | 370.9 ± 124.4 | 359.0314.6 – 403.4 | 410.0 ± 138.3 | 398.1348.7 – 447.5 |
| SchaeferSVM |  |  |  |  |  |  |
| 5-8y | 370.5 ± 106.4 | 354.8311.6 – 397.9 | 405.4 ± 104.0 | 389.7311.6 – 397.9 |
| 9-12y | 325.1 ± 110.4 | 313.2273.8 – 352.5 | 352.4 ± 115.2 | 340.5299.4 – 382.7 |
|  |  | Right thigh |  |  |
| **activPAL3TM** | 5-8y | 24.2 ± 8.4 | 8.56.0 – 11.0 |  |  |  |
|   | 9-12y | 15.1 ± 4.9 | 3.22.1 – 4.3 |  |  |  |
|  |  | Right hip |  |  |
| **ActiGraph hip (vertical axis)** | 5-8y | 48.9 ± 15.2 | 33.227.5 – 38.8 |  |  |  |
| 9-12y | 41.3 ± 11.7 | 29.325.4 – 33.3 |  |  |  |
|  |  |  |  |  |  |  |
| **Direct observation** | 5-8y | 15.8 ± 48.9 | - |  |  |  |
|  | 9-12y | 11.9 ± 3.4 | - |  |  |  |

Notes Supplemental Digital Content 5: CI: confidence interval; REG: developed using regression analysis; ROC: developed using receiver operating curve analysis; VA: vertical axis; VM: vector magnitude; SB: sedentary behavior; SVM: gravity-subtracted signal vector magnitude. Mean differences are presented as absolute values and were calculated as: measured SB breaks – estimated SB breaks; all methods overestimated the absolute number of breaks. \*Not significantly different from direct observation (p ≥ 0.05).