Supplemental Digital Content 1. Pearson correlation coefficients between measured (Cosmed) and ActiGraph hip (Crouter vertical axis (VA) 2-regression model and Crouter vector magnitude (VM) 2-regression model) and wrist (VA single regression model and VM single regression model) prediction methods for child-METs and time spent in sedentary behaviors (SB), light physical activity (LPA), moderate PA (MPA), vigorous PA (VPA) and moderate and vigorous PA (MVPA) during approximately two hours of unstructured PA. All correlations are significant (P ≤ 0.001).

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Cosmed child-MET** | **Cosmed SB** | **Cosmed LPA** | **Cosmed MPA** | **Cosmed VPA** | **Cosmed MVPA** |
| **Hip** | Crouter VA 2-regression model | 0.825 | 0.776 | 0.725 | 0.710 | 0.634 | 0.965 |
| Crouter VM 2-regression model | 0.811 | 0.742 | 0.746 | 0.695 | 0.646 | 0.962 |
| **Wrist** | VA single regression model | 0.814 | 0.825 | 0.778 | 0.595 | 0.748 | 0.901 |
| VM single regression model | 0.781 | 0.730 | 0.767 | 0.485 | 0.724 | 0.859 |

child-MET, metabolic equivalents (measured VO2 for the activity divided by measured lying rest VO2).