

Gait Profile Score

These equations are taken from the following papers:

Baker, R., McGinley, J.L., Schwartz, M.H., Beynon, S., Rozumalski, A., Graham, H.K., Tirosh, O. (2009). The gait profile score and movement analysis profile. *Gait Posture*, 30(3), 265-269.

Baker, R., McGinley, J. L., Schwartz, M., Thomason, P., Rodda, J., & Graham, H. K. (2012). The minimal clinically important difference for the Gait Profile Score. *Gait Posture*, 35(4), 612-615.

Gait Variable Scores (Eq. 1)

$$GVS_i = \sqrt{\frac{1}{T} \sum_{t=1}^T (x_{i,t} - x_{i,t}^{-ref})^2}$$

GVS_i = Gait Variable Scores

i = The number of kinematic variables used (knee flexion, foot progression, etc.)

t = Specific point in the gait cycle

T = Total number of points in the gait cycle

$x_{i,t}$ = The value of a gait variable (i) calculated at a specific point in the gait cycle (t)

$x_{i,t}^{-ref}$ = The mean of that variable at the same point in the gait cycle for the reference population

Gait Profile Scores (Eq. 2)

$$GPS = \sqrt{\frac{1}{N} \sum_{i=1}^N GVS_i^2}$$

GPS = Gait Profile Scores

GVS_i = Gait Variable Scores

i = The number of kinematic variables used (knee flexion, foot progression, etc.)

T = The total number of kinematic variables used