

REFERENCES

- [1] Lord S, Galna B, Verghese J, Coleman S, Burn D, Rochester L. Independent domains of gait in older adults and associated motor and nonmotor attributes: validation of a factor analysis approach. *J Gerontol A Biol Sci Med Sci*. 2013;68:820-7.
- [2] Maki BE. Gait changes in older adults: predictors of falls or indicators of fear. *J Am Geriatr Soc*. 1997;45:313-20.
- [3] Verghese J, Wang C, Lipton RB, Holtzer R, Xue X. Quantitative gait dysfunction and risk of cognitive decline and dementia. *J Neurol Neurosurg Psychiatry*. 2007;78:929-35.
- [4] Hirvensalo M, Rantanen T, Heikkinen E. Mobility difficulties and physical activity as predictors of mortality and loss of independence in the community-living older population. *J Am Geriatr Soc*. 2000;48:493-8.
- [5] Hardy SE, Perera S, Roumani YF, Chandler JM, Studenski SA. Improvement in usual gait speed predicts better survival in older adults. *J Am Geriatr Soc*. 2007;55:1727-34.
- [6] Webster KE, Wittwer JE, Feller JA. Validity of the GAITRite walkway system for the measurement of averaged and individual step parameters of gait. *Gait Posture*. 2005;22:317-21.
- [7] Bilney B, Morris M, Webster K. Concurrent related validity of the GAITRite walkway system for quantification of the spatial and temporal parameters of gait. *Gait Posture*. 2003;17:68-74.

- [8] Beauchet O, Herrmann FR, Grandjean R, Dubost V, Allali G. Concurrent validity of SMTEC footswitches system for the measurement of temporal gait parameters. *Gait Posture*. 2008;27:156-9.
- [9] O'Connor CM, Thorpe SK, O'Malley MJ, Vaughan CL. Automatic detection of gait events using kinematic data. *Gait Posture*. 2007;25:469-74.
- [10] Godfrey A, Conway R, Meagher D, Laighin G. Direct measurement of human movement by accelerometry. *Med Eng Phys*. 2008;30:1364-86.
- [11] Zheng H, Black ND, Harris ND. Position-sensing technologies for movement analysis in stroke rehabilitation. *Med Biol Eng Comput*. 2005;43:413-20.
- [12] Kavanagh JJ, Morrison S, James DA, Barrett R. Reliability of segmental accelerations measured using a new wireless gait analysis system. *J Biomech*. 2006;39:2863-72.
- [13] Menz HB, Latt MD, Tiedemann A, Mun San Kwan M, Lord SR. Reliability of the GAITRite walkway system for the quantification of temporo-spatial parameters of gait in young and older people. *Gait Posture*. 2004;20:20-5.
- [14] Hartmann A, Luzi S, Murer K, de Bie RA, de Bruin ED. Concurrent validity of a trunk tri-axial accelerometer system for gait analysis in older adults. *Gait Posture*. 2009;29:444-8.
- [15] Moe-Nilssen R. A new method for evaluating motor control in gait under real-life environmental conditions. *Clin Biomech (Bristol, Avon)*. 1998;13:320-7.
- [16] Culhane KM, O'Connor M, Lyons D, Lyons GM. Accelerometers in rehabilitation medicine for older adults. *Age Ageing*. 2005;34:556-60.
- [17] Murphy SL. Review of physical activity measurement using accelerometers in older adults: considerations for research design and conduct. *Prev Med*. 2009;48:108-14.

- [18] Kwapisz JR, Weiss GM, Moore SA. Activity recognition using cell phone accelerometers. *ACM SigKDD Explorations Newsletter*. 2011;12:74-82.
- [19] Dunton GF, Dzubur E, Kawabata K, Yanez B, Bo B, Intille S. Development of a smartphone application to measure physical activity using sensor-assisted self-report. *ACM J Emerg Technol Comput Syst*. 2014:88-100.
- [20] Anguita D, Ghio A, Oneto L, Parra X, Reyes-Ortiz JL. Human activity recognition on smartphones using a multiclass hardware-friendly support vector machine. *Ambient assisted living and home care: Springer*; 2012. p. 216-23.
- [21] Kim A, Kim J, Rietdyk S, Ziaie B. A wearable smartphone-enabled camera-based system for gait assessment. *Gait Posture*. 2015;42:138-44.
- [22] Furrer M, Bichsel L, Niederer M, Baur H, Schmid S. Validation of a smartphone-based measurement tool for the quantification of level walking. *Gait Posture*. 2015;42:289-94.
- [23] Antos SA, Albert MV, Kording KP. Hand, belt, pocket or bag: Practical activity tracking with mobile phones. *J Neurosci Methods*. 2014;231:22-30.
- [24] Kavanagh JJ, Menz HB. Accelerometry: a technique for quantifying movement patterns during walking. *Gait Posture*. 2008;28:1-15.
- [25] Godfrey A, Del Din S, Barry G, Mathers JC, Rochester L. Instrumenting gait with an accelerometer: a system and algorithm examination. *Med Eng Phys*. 2015;37:400-7.
- [26] Zijlstra A, Zijlstra W. Trunk-acceleration based assessment of gait parameters in older persons: a comparison of reliability and validity of four inverted pendulum based estimations. *Gait Posture*. 2013;38:940-4.
- [27] Zijlstra W, Hof AL. Assessment of spatio-temporal gait parameters from trunk accelerations during human walking. *Gait Posture*. 2003;18:1-10.

- [28] Zijlstra W. Assessment of spatio-temporal parameters during unconstrained walking. *Eur J Appl Physiol.* 2004;92:39-44.
- [29] Bugane F, Benedetti MG, Casadio G, Attala S, Biagi F, Manca M, et al. Estimation of spatial-temporal gait parameters in level walking based on a single accelerometer: validation on normal subjects by standard gait analysis. *Comput Methods Programs Biomed.* 2012;108:129-37.
- [30] Auvinet B, Berrut G, Touzard C, Moutel L, Collet N, Chaleil D, et al. Reference data for normal subjects obtained with an accelerometric device. *Gait Posture.* 2002;16:124-34.
- [31] Terry M. Medical Apps for Smartphones. *Telemed J E Health.* 2010;16:17-22.
- [32] Cui Y, Chipchase J, Ichikawa F. A Cross Culture Study on Phone Carrying and Physical Personalization. In: Aykin N, editor. *Usability and Internationalization HCI and Culture.* Berlin, Heidelberg: Springer 2007. p. 483-92.
- [33] Silsupadol P, Teja K, Lugade V. Reliability and validity of a smartphone-based assessment of gait parameters across walking speed and smartphone locations: Body, bag, belt, hand, and pocket. *Gait Posture.* 2017;58:516-22.
- [34] Mukaka MM. Statistics corner: A guide to appropriate use of correlation coefficient in medical research. *Malawi Med J.* 2012;24:69-71.
- [35] Bilney B, Morris M, Webster K. Concurrent related validity of the GAITRite walkway system for quantification of the spatial and temporal parameters of gait. *Gait Posture.* 2003;17:68-74.
- [36] Webster KE, Wittwer JE, Feller JA. Validity of the GAITRite walkway system for the measurement of averaged and individual step parameters of gait. *Gait Posture.* 2005;22:317-21.

- [37] Levens AS, Inman VT, Blosser JA. Transverse rotation of the segments of the lower extremity in locomotion. The Journal of bone and joint surgery American volume. 1948;30:859-72.
- [38] Murray MP, Drought AB, Kory RC. Walking Patterns of Normal Men. JBJS. 1964;46.
- [39] Ishigaki N, Kimura T, Usui Y, Aoki K, Narita N, Shimizu M, et al. Analysis of pelvic movement in the elderly during walking using a posture monitoring system equipped with a triaxial accelerometer and a gyroscope. J Biomech. 2011;44:1788-92.
- [40] Orendurff MS, Schoen JA, Bernatz GC, Segal AD, Klute GK. How humans walk: bout duration, steps per bout, and rest duration. J Rehabil Res Dev. 2008;45:1077-89.
- [41] Lugade V, Fortune E, Morrow M, Kaufman K. Validity of using tri-axial accelerometers to measure human movement-Part I: Posture and movement detection. Med Eng Phys.36:169-76.
- [42] Hausdorff JM. Gait variability: methods, modeling and meaning. J Neuroeng Rehabil. 2005;2:19.
- [43] Mannini A, Sabatini AM, Intille SS. Accelerometry-based recognition of the placement sites of a wearable sensor. Pervasive Mob Comput. 2015;21:62-74.