Study	Definition
CTA Standard ¹	<i>"raising one foot and putting it down in another spot with the goal of locomotion by Walking and/or Jogging/Running"</i>
Merriam-Webster Dictionary ²	<i>"an advance or movement made by raising the foot and bringing it down elsewhere"</i>
Oxford English Dictionary ³	"An act of bodily motion consisting in raising the foot from the ground and bringing it down again in a fresh position; usually, an act of this kind as constituting by repetition the progressive motion of a human being or animal in walking, running, or climbing."
Feito et al., 2012 ⁴	"every time the right heel made contact with the ground"
Hickey et al., 2016 ⁵	<i>"each occasion the foot was completely raised off and subsequently lowered to the ground."</i>
Imboden et al., 2018 ⁶	"lifting the entire foot and then placing it on the ground"
Larkin et al., 2016 ⁷	"complete foot contact with the ground in the sagittal or frontal plane, with the foot having left the ground completely before contact with the ground"
Nelson et al., 2016 ⁸	"picking up of the heel and toe of a foot and replacing it on the ground"

Supplementary Material 3. Identified definitions of a step.

References for Supplemental File 2

- 1. Consumer Technology Association. *Physical Activity Monitoring for Fitness Wearables: Step Counting*. 2016. ASI/CTA Stanadard-2056.
- Merriam-Webster Dictionary [online]. "step, 2 a(1)". In. Merriam-Webster Dictionary [online]: Merriam-Webster; 2018.
- Oxford English Dictionary [online]. "step, n.1". In. Oxford English Dictionary [online]: Oxford University Press; 2018.
- Feito Y, Bassett DR, Thompson DL, Tyo BM. Effects of body mass index on step count accuracy of physical activity monitors. *J Phys Act Health*. 2012;9(4):594-600.
- Hickey A, John D, Sasaki JE, Mavilia M, Freedson P. Validity of Activity Monitor Step Detection Is Related to Movement Patterns. *J Phys Act Health.* 2016;13(2):145-153.
- Imboden MT, Nelson MB, Kaminsky LA, Montoye AH. Comparison of four Fitbit and Jawbone activity monitors with a research-grade ActiGraph accelerometer for estimating physical activity and energy expenditure. *Br J Sports Med.* 2018;52(13):844-850.
- Larkin L, Nordgren B, Purtill H, Brand C, Fraser A, Kennedy N. Criterion Validity of the activPAL Activity Monitor for Sedentary and Physical Activity Patterns in People Who Have Rheumatoid Arthritis. *Phys Ther.* 2016;96(7):1093-1101.
- 8. Nelson MB, Kaminsky LA, Dickin DC, Montoye AH. Validity of Consumer-Based Physical Activity Monitors for Specific Activity Types. *Med Sci Sports Exerc*. 2016;48(8):1619-1628.