Title: Real-World Walking in Multiple Sclerosis: Separating Capacity from Behavior

Authors: Matthew M. Engelhard, Stephen D. Patek, John C. Lach, Myla D. Goldman

PII: S0966-6362(17)30971-2
DOI: https://doi.org/10.1016/j.gaitpost.2017.10.015
Reference: GAIPOS 5844

To appear in: *Gait & Posture*

Received date: 13-4-2017
Revised date: 31-8-2017
Accepted date: 12-10-2017

Please cite this article as: Engelhard Matthew M, Patek Stephen D, Lach John C, Goldman Myla D.Real-World Walking in Multiple Sclerosis: Separating Capacity from Behavior.*Gait and Posture* https://doi.org/10.1016/j.gaitpost.2017.10.015

Real-World Walking in Multiple Sclerosis: Separating Capacity from Behavior

Matthew M. Engelhard, MD, PhD[1*]; Stephen D. Patek, PhD[1]; John C. Lach, PhD[2]; and Myla D. Goldman, MD, MSc[3]

[1]Department of Systems and Information Engineering, University of Virginia

[2]Department of Electrical and Computer Engineering, University of Virginia

[3]Department of Neurology, University of Virginia

*Conducted all statistical analyses

Corresponding Author: Myla D. Goldman, MD, MSc
University of Virginia Department of Neurology
PO Box 800394
Charlottesville, Virginia 22908
P: 434-982-3936
F: 434-243-5420
Email: mdg3n@virginia.edu

WORD COUNTS: Abstract 197; Body 2,747

TITLE CHARACTER COUNT: 75

NUMBER OF FIGURES: 2 (included in both color and b&w)

NUMBER OF TABLES: 3

RUNNING HEADER: Real-World Walking in MS

KEYWORDS: Multiple Sclerosis, Gait Disorders/Ataxia, Outcomes Research, Six-Minute Walk, Habitual Physical Activity, Habitual Walking Performance, Accelerometry

Highlights

- Habitual physical activity measures the real-world impact of walking disability.
- However, it's difficult to distinguish the *ability* to walk from activity behaviors.
- New activity statistics are proposed as specific measures of walking capacity.
- Their benefit is validated in multiple sclerosis via correlation to timed walks.

ABSTRACT