Title: Validation of an Accelerometer for Measurement of Activity in Frail Older People

Authors: Nethra Ganesh Chigateri, Ngaire Kerse, Laurian Wheeler, Bruce MacDonald, Jochen Klenk

PII: S0966-6362(18)31438-3
DOI: https://doi.org/10.1016/j.gaitpost.2018.08.024
Reference: GAIPOS 6480

To appear in: *Gait & Posture*

Received date: 14-2-2018
Revised date: 30-7-2018
Accepted date: 20-8-2018

Please cite this article as: Chigateri NG, Kerse N, Wheeler L, MacDonald B, Klenk J, Validation of an Accelerometer for Measurement of Activity in Frail Older People, *Gait and amp; Posture* (2018), https://doi.org/10.1016/j.gaitpost.2018.08.024

Validation of an Accelerometer for Measurement of Activity in Frail Older People

Nethra Ganesh Chigateri, Ngaire Kerse, Laurian Wheeler, Bruce MacDonald, Jochen Klenk

Authors:

Nethra Ganesh Chigateri
Department of Electrical and Computer Engineering
Faculty of Engineering
The University of Auckland
314-390 Khyber Pass Rd, Newmarket, Auckland 1023
New Zealand

Dr. Ngaire Kerse
Department of General Practice and Primary Healthcare
School of Population Health
The University of Auckland
Auckland
New Zealand

Laurian Wheeler
Department of General Practice and Primary Healthcare
School of Population Health
The University of Auckland
Auckland
New Zealand

Dr. Bruce Macdonald
Department of Electrical and Computer Engineering
Faculty of Engineering
The University of Auckland
314-390 Khyber Pass Rd, Newmarket, Auckland 1023
New Zealand

Dr. Jochen Klenk
Institute of Epidemiology and Medical Biometry,
Ulm University, Ulm
Germany
Department of Clinical Gerontology and Rehabilitation
Robert-Bosch Hospital
Stuttgart, Germany

RESEARCH HIGHLIGHTS

- Accelerometer validation for activity & gait detection-frail older people(>75 years)
- Study carried out in Free-living/out-of-clinical lab conditions
- Data is inertial signals from a single waist-worn wearable device
- Method - Comparison between processed accelerometer data and annotated video
- 92.8% and 95.1% of walking episodes detected for unscripted and scripted activities