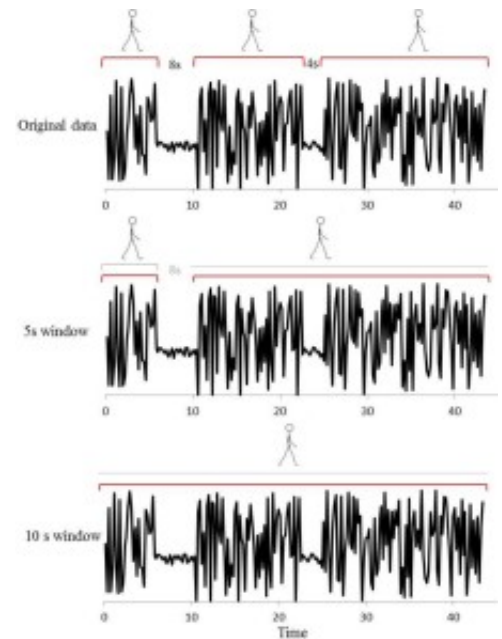


## Measuring walking in daily life: the impact of commercial wearables

Wearables or body worn monitors (BWM) provide continuous and objective measures of community-based walking and can be useful in clinical or population-based studies to monitor adherence to a rehabilitation strategy or generic public health guidelines, e.g. walk in bouts (periods of time) greater than 10 minutes to accumulate at least 150 minutes per week. However, different understandings of what defines a single bout of walking might influence outcomes.



Firstly, the study showed that varying (changing) the MRP between successive walking bouts significantly influences volume, variability and pattern of community-based walking: important outcomes that help define patient groups and may influence patient care or therapy when use these types of devices.

For example, if a person pauses (e.g. 4s) due to environmental factors e.g. pedestrian crossing or opening a door: should this be considered one long bout or two shorter bouts, (Fig. 1.)? Decisions regarding the maximum resting period (MRP) between consecutive bouts of walking have not been investigated, despite having the potential to impact measures of community-based activity. The study examined the effect of changing the MRP on different walking outcomes, such as total time spent walking and compared how this might impact public health guidelines. Data were captured using a BWM over 7 days in a cohort of almost 100 older adults.

Secondly, the study found an interesting result: the device used had inherent (built in) thresholds to define a bout of walking, not previously disclosed. This surprised the authors but let to an important recommendation that: there is a need for standardised algorithms (how to analyse the signals from

these devices) to aid interpretation of community walking based on MRP derived from different devices (BWM).

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## **Publication**

[Defining ambulatory bouts in free-living activity: Impact of brief stationary periods on bout metrics.](#)

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