

PAPER

Sensors and Monitoring

M. BOWEN, R. ROWE. *Wandering behaviours among older adults with cognitive impairment. Gerontechnology 2018;17(Suppl):108s*; <https://doi.org/10.4017/gt.2018.17.s.105.00> **Purpose** To examine the wandering behaviors of older adults with cognitive impairment in a long-term care facility using a real-time locating system (RTLS). **Method** Wandering is measured by x and y coordinates provided by the RTLS technology for up to 8 months (N=22). The x and y coordinates are used to create the following wandering indices averaged weekly: wandering episodes (average count of how many times the resident walked uninterrupted for at least 60-seconds separated by at least 30-second non-ambulatory intervals before and after the episode), distance travelled (average cumulative miles travelled across wandering episodes) and gait speed [average miles/hour (mph) during wandering episodes]. **Results & Discussion** Residents wandered in about 15.81 episodes each week, travelling an average of 0.66 miles at a gait speed of about 0.63 mph. Given that wandering is associated with a variety of adverse health outcomes in this population including falls and functional decline^{1,2}, a RTLS may offer several advantages in terms of the early identification of wandering behaviors. First, a RTLS provides objective wandering data whereas healthcare staff are likely to classify residents as wanderers when they attempt elope from the facility^{3,4}. Second, a RTLS is also continuous, capturing wandering activity 24/7; health care staff do not have time nor are they trained to detect the onset of wandering or subtle changes in wandering over time. This is important as changes such as these may indicate an underlying physiological vulnerability amenable to intervention^{5,6}.

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Keywords: dementia, assisted living, ambulation, technology

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