

Improving Nocturia Follow-up Using a Home Bed Occupancy Sensor

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BACKGROUND: A loss of bladder control is often found in older adults. During physician visits, patients are often unable to recall the number of times they visited the bathroom during a given night, especially if they see their physicians once every one to three months. An alternative solution is to use sensors monitoring nocturnal bed exit as a proxy for bathroom visits.

OBJECTIVE: To test a bed occupancy sensor as a proxy measure of sleep interruption in older adults with nocturia.

METHOD: Recruit 10 consecutive Geriatric Day Hospital patients with nocturia. The system consisted of a S4 Sensors Bed Occupancy Sensor connected to a Dell Optiplex computer. We intended to record data for the duration of their Day Hospital care, typically 8 weeks.

RESULTS: Data from 2 men and 6 women between the ages of 64 and 93 was collected for 5 to 10 weeks, and analysed using custom software. The number of bed exits per night, the weekly average of exits per night, the time of bed exit and the number or hours of consecutive bed occupancy was determined. A custom clinician user interface was developed. The analyzed data of one patient was compared with the patient's sleep diary. It was found that 47% of the bed exits matched the patient's diary, with significantly more exits being recorded by the occupancy sensor.

CONCLUSION: A bed occupancy sensor may be a useful way to follow nocturia treatment in an unobtrusive way, and is likely more reliable than a sleep diary.