

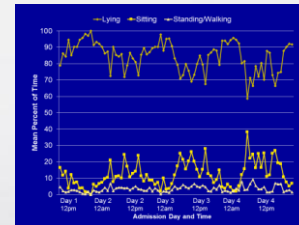
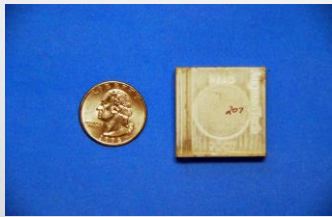
Implementation of Mobility Programs for Older Patients: Hospital Inpatient Admissions

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Pre-2005, limited methods to measure mobility

- Chart review of physician activity orders¹
- Brief surveys of patient location²
- Periodic nursing reports³
- Direct observation of hallways⁴

In 2009, first paper published using accelerometers⁵



¹ Brown CJ, et al. J Am Geriatr Soc, 2004; ² Lazarus BA, et al. Arch Intern Med, 1991; ³ Warshaw G, et al. JAMA 1982;

⁴ Callen BL, et al. Geriatr Nurs 2004; ⁵ Brown CJ, et al. J Am Geriatr Soc, 2009

Current Measurement of Mobility



StepWatch



FitBit



Apple Watch

Actigraph



Tractivity



ActivPAL

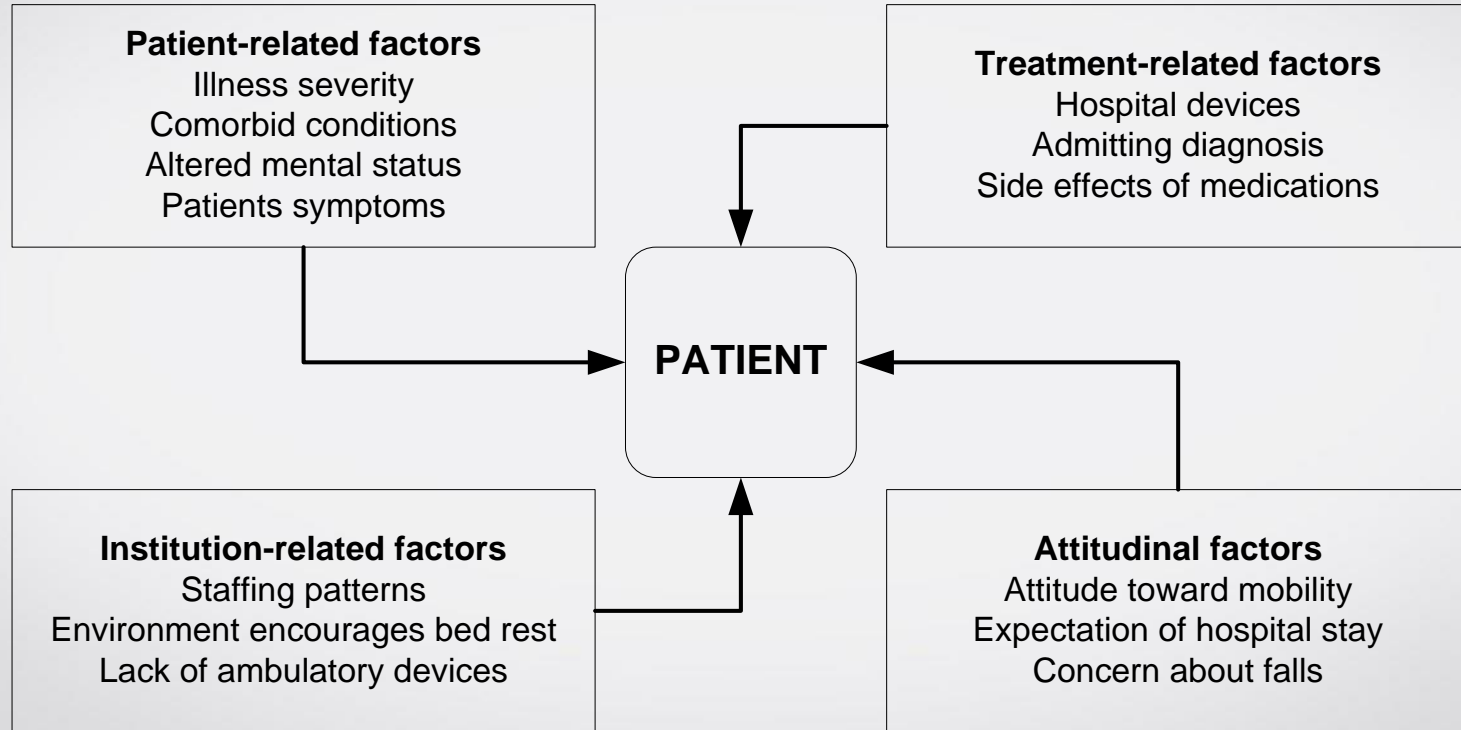
Current Knowledge

- Low mobility, defined as bed rest and bed to chair activity, common among hospitalized adults¹
- Low mobility associated with adverse outcomes:²
 - ADL decline
 - Nursing Home placement
 - Increased LOS
 - Death
- Numerous barriers to hospital mobility³

¹ Brown CJ, 2009; Fisher SR, 2010; Pedersen MM, 2013, Zisberg A, 2016

² Brown CJ, 2004; Zisberg A, 2011, Hastings SN, 2014 ³ Brown CJ, 2007; Hoyer EH, 2015

Hospital-Related Barriers to Mobility



Major Barriers to Increased Hospital Mobility

- Ownership of mobility unclear
- Measurement of mobility still challenging
- Hospital culture encourages low mobility
- Hospital environment encourages low mobility
- Healthcare Policy encourages low mobility

Tested Interventions to Promote Mobility

Quasi-Experimental Design

- MOVIN – Nurse driven using SEIPS model¹
- MOVE ON – Both staff and patient/family levels²
- STAND-Cph– PT driven model³
- STRIDE – Cohort study of rec therapy aides⁴
- Transporter Pilot⁵

¹King 2016; ² Liu 2013; ³ Pedersen 2016; ⁴ Hastings 2014; ⁵Tucker

Tested Interventions to Promote Mobility

Randomized Clinical Trials

- Early mobilization of patients with CAP⁵
 - EM defined as sitting out of bed or ambulating at least 20 min during first 24 h of hospitalization. Progressive mobilization by nurses.
- UAB Mobility Program⁶
 - Progressive mobilization provided by research aides twice daily in a general medical population.

⁵Mundy et al, Chest, 2003; ⁶Brown et al. JAMA Intern Med, 2016

Gaps and Opportunities

- Incorporate robust measures of mobility in clinical and epidemiological research
- Identify which patients benefit most from increased hospital mobility
- Evaluate the moderating effect of in-hospital mobility on other comorbidities that lead to disability, utilization, death
- Better define the link between hospital mobility and health outcomes
- Determine the cost-benefit of hospital mobility programs

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