



## A new model of physiotherapy rehabilitation to improve outcomes after hip fracture: a randomised trial

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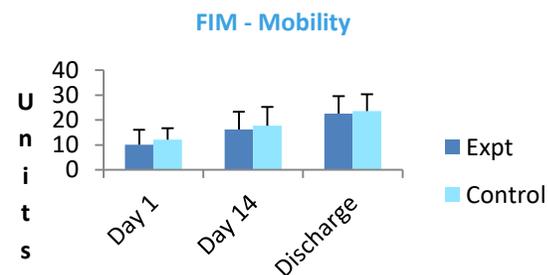
### Background

At Peter James Centre (PJC), approximately 200 patients annually are admitted to rehabilitation following a hip fracture. Generally, they are prescribed 1x physiotherapy session (30-45 minutes) 5 days/week; comprising of therapeutic exercises and functional retraining.

Taylor et al 2015, demonstrated the maximum tolerated dose of walking for patients recovering from hip fracture was 6 minutes per session. This suggests that clinicians could achieve better mobility outcomes by using physiotherapy time more effectively.

### Aim

To investigate if providing three short sessions of physiotherapy each therapy day, was more effective than providing one long session each therapy day in improving mobility after admission to rehabilitation following a hip fracture.



### Method

A randomised controlled trial was used with intervention group receiving 3x15 minute sessions of physiotherapy 5 days/week and the control group receiving usual care of 1x45 minute session of physiotherapy 5 days/week.

All patients admitted to Peter James Centre rehabilitation units after a hip fracture over a 10 month period were invited to participate (August 2017-July 2018).

### Outcomes

- Primary outcome measure was the De Morton Mobility Index (DEMMI)
- Secondary outcomes included Functional Independence Measure (FIM) – scored for transfers, ambulation and steps.
- ActivPAL activity monitor – Daily total number of steps and time spent upright
- Length of stay, 30 day readmission rate, compliance with the program and discharge destination

	Experiment (n=38)	Control (n=38)
Age (mean)	81.3	81.0
Comorbidities (n)	6.4	5.3
Sex n female (%)	27 (71%)	27 (71%)
NESB n (%)	7 (8%)	4 (10%)
Cognitive Impairment n (%)	17 (45%)	14 (37%)
Living alone n (%)	15 (39%)	13 (34%)
Independent no aid n (%)	13 (34%)	24 (63%)
Independent with gait aid n (%)	20 (53%)	12 (32%)

### Key findings

- There were no significant differences between groups in primary or secondary outcomes
- All participants achieved a clinically significant change in DEMMI at day 14 and discharge
- There was no significant between-group difference in amount of active therapy received. There were high levels of compliance in both the experimental and control groups (> 82% of scheduled sessions completed).
- Patients were equally satisfied with either model of care.

### Conclusions

Both models of physiotherapy rehabilitation were well tolerated and effective in improving mobility after hip fracture surgery. There was no between group in discharge DEMMI 1.9 (95%CI-6.9 to 3.2) or in any secondary outcome

### Implications for practice

There is no advantage in routinely scheduling three short sessions of physiotherapy each day in preference to one longer session for patients receiving rehabilitation after hip fracture

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