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Appraisal | Critically Appraised Papers

High-intensity acute hospital physiotherapy for patients with hip fracture may improve functional independence and can reduce hospital length of stay

Synopsis

Summary of: Kimmel LA, Liew SM, Sayer JM, Holland AM. HIP4Hips (High Intensity Physiotherapy for hip fractures in the acute hospital setting): a randomised controlled trial. *Med J Aust.* 2016; 205: 73-78.

Question: Does providing intensive physiotherapy in the acute hospital setting improve functional independence and reduce length of stay in patients with hip fracture? ***Design:*** Randomised, controlled trial with concealed allocation and blinded outcome assessment. ***Setting:*** A single acute hospital trauma centre in Australia. ***Participants:*** Patients were included if at least 65 years old and admitted with an isolated hip fracture managed by internal fixation or hemiarthroplasty. Key exclusion criteria were if the fracture was pathological, if patient was non-weight-bearing, if patient required a gait aid prior to admission, and if patient was admitted from a nursing home. Randomisation of 92 patients allocated 46 to the high-intensity group and 46 to the usual care group. ***Interventions:*** Both groups received daily physiotherapy 7 days per week, comprising bed-based limb exercises and gait retraining. In addition, the high-intensity group received two additional daily sessions, 7 days per week, one supervised by an allied health assistant and the second by an independent physiotherapist. The additional sessions had similar content to the usual care sessions. ***Outcome measures:*** The primary outcome was the modified Iowa Level of Assistance score measured on day 5. The modified Iowa Level of Assistance measures functional independence, scored from 0 (independent in all activities without a gait aid) to 36 (unable to attempt any of the activities). Secondary outcome measures included the Timed Up and Go test, length of stay, discharge destination, and 6-month readmission data. ***Results:*** Day 5 data were obtained from all 92 participants. At day 5, there was no difference in modified Iowa Level of Assistance score (MD 2.7 points, 95% CI −1.0 to 6.4). When controlled for confounding factors of gender, anaesthetic type, carer at home and stairs at home, the day 5 modified Iowa Level of Assistance score was lower (better) in the high-intensity group (MD 4.1 points, 95% CI 0.2 to 8.0). Hospital length (acute and inpatient rehabilitation) was 11 days shorter in the high-intensity group (median 24 days in the high-intensity group compared with 35 days in the usual care group). The groups did not significantly differ on the remaining secondary outcomes. ***Conclusion:*** An intensive physiotherapy program in the acute hospital setting may have led to modest improvements in functional independence in the short term and resulted in reduced length of stay in hospital.

[95% CIs calculated by the CAP Editor.]

Provenance: Invited. Not peer reviewed.

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Commentary

Hip fracture remains a potentially devastating event for older adults, with functional recovery outcomes stagnating for decades. Kimmel and colleagues tackled an important predictor of hip fracture recovery by testing the effect of additional acute care physiotherapy on functional recovery and hospital length of stay.

We provide some clinical perspectives on this notable study. First, the usual care provided (7 days/week) is exemplary, as many facilities do not offer regular weekend physiotherapy coverage.[1] Second, the study provides feasibility to deliver additional daily physiotherapy, but warrants a detailed description of the intervention (eg, TIDier checklist[2] and behaviour change techniques[3]). Third, older adults with hip fracture are a diverse group, and vary widely in recovery. Eligible study participants did not use a walking aid before fracture, and although the rationale for the inclusion criteria was reasonable (participants who could tolerate additional physiotherapy), it limits the generalisability of the findings. Fourth, Davenport and colleagues[4] noted in the acute setting that older adults after hip fracture were only active for 16 minutes/day. Encouraging older adults to move more in the acute phase after hip fracture may reduce the detrimental consequences of prolonged sedentary behaviour. It may also help to create exercise habits and support self-efficacy around physical activity engagement in preparation for discharge. Furthermore, all members of the interdisciplinary team can promote this shared responsibility. Finally, future research should investigate the factors (beyond function) responsible for the significant reduction in length of stay seen in participants receiving the intervention.

This study is an important catalyst for physiotherapists to lead the charge and advocate for a model to optimise the balance between activity and sitting (rest) and the adoption of strength and balance activities. It is time to turn up the volume of physical activity in acute settings after hip fracture.

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