Comprehensive care for older people after hip fracture

A randomised controlled trial in Norway of people aged 70 or over with hip fracture found that providing comprehensive geriatric assessment and care led to better mobility after surgery than standard orthopaedic care.

Overview:

- A randomised controlled trial in Norway of people aged 70 or over with hip fracture found that providing comprehensive geriatric assessment and care led to better mobility after surgery than standard orthopaedic care.
- The approach used in this study is very similar to hip fracture care in England, which should include admission under the joint care of a consultant geriatrician and a consultant orthopaedic surgeon and use of a postoperative multi-professional rehabilitation team.

Background: In England, people who experience hip fracture are aged 82.5 years on average, and around a fifth of patients are aged 90 years or older (Neuburger et al. 2015). Many older people who fracture a hip are frail, have comorbidities, and experience deterioration in health after the fracture.

Orthopaedic surgery is the main way of treating people with hip fracture. However, a multidisciplinary collaborative approach, including medical specialists and rehabilitation, may maximize recovery in elderly people.

Comprehensive geriatric care for hip fracture involves admitting people to specialised orthogeriatric wards under the care of both geriatricians and orthopaedic surgeons (British Orthopaedic Association 2007). However, the effect of multidisciplinary inpatient care for older people with hip fracture is not clear (Handoll et al. 2009).

Current advice: The NICE guideline on hip fracture recommends offering patients admitted with hip fracture a formal, acute, orthogeriatric or orthopaedic ward-based ‘Hip Fracture Programme’ that includes all of the following:

- orthogeriatric assessment
• rapid optimisation of fitness for surgery
• early identification of individual goals for multidisciplinary rehabilitation
• continued, coordinated, orthogeriatric and multidisciplinary review
• liaison or integration with related services, particularly mental health, falls prevention, bone health, primary care and social services
• clinical and service governance responsibility for all stages of the pathway of care and rehabilitation.

The NICE pathway on hip fracture brings together all related NICE guidance and associated products on the condition in a set of interactive topic-based diagrams.

**New evidence:** Prestmo et al. (2015) conducted a prospective randomised controlled trial of comprehensive geriatric care compared with usual orthopaedic care after surgery for hip fracture. People admitted to a single hospital in Norway with hip fracture were screened. The study recruited those people who were aged 70 years or older, living at home, and able to walk 10 metres before the fracture.

Geriatric care took place in an acute geriatric ward and comprised comprehensive geriatric assessment and treatment (such as comorbidity management and review of drug regimens), rehabilitation through mobilisation, and early planning of discharge. Orthopaedic care was delivered in a mixed orthopaedic trauma ward and involved care and physiotherapy in accordance with national and international guidelines.

The primary outcome was mobility at 4 months after surgery measured by the **Short Physical Performance Battery (SPPB)**, which assesses standing balance, walking speed and ability to rise from a chair (range 0–12; high scores indicate better mobility).

A total of 1077 patients were screened for eligibility, of whom 397 (37%) were randomly assigned to either geriatric care (n=198) or orthopaedic care (n=199). Participants were aged 83 years on average, and the majority (73%) were women.

At 4 months follow-up, people in the geriatric care group had better mobility than those in the orthopaedic care group (between–group difference in mean SPPB score=0.74, 95% confidence interval [CI] 0.18 to 1.30, p=0.010). People in the geriatric care group likewise had better mobility at 12 months (between–group difference in mean SPPB score=0.69, 95% CI 0.10 to 1.28, p=0.023).

Mean length of hospital stay was significantly longer in the geriatric care group (12.6 days) than in the orthopaedic care group (11.0 days, p=0.025). However, the total cost of care, including use of hospital, primary health and care services after discharge, did not differ significantly between the 2 groups.

The main strengths of this study are the large sample, the high retention of participants (only 33 [8%] withdrew or were lost to follow-up) and the randomised controlled design. In addition, the study focused on performance-based functional outcomes, rather than self-reported measures. Limitations include that the participants and the providers of care were not blinded, and the study took place at a single centre.

**Commentary by Professor Opinder Sahota, Professor of Orthogeriatric Medicine and Consultant Physician, Nottingham University Hospitals NHS Trust:**

“This is the first study to evaluate the role of comprehensive geriatric care in elderly patients with hip fracture in a prospective randomised controlled trial. Current practice in England is driven by the Best Practice Tariff (BPT) for Hip Fracture Care. The indicators for this tariff include admission under the joint care of a consultant geriatrician and a consultant orthopaedic surgeon, and use of a postoperative geriatrician-directed multi-professional rehabilitation team.

“The approach used by Prestmo et al. (2015) is very similar to that set out in the BPT and currently in
place in England; therefore, their results are highly relevant to the UK and support current best practice.

“A key limitation of this study, however, is the small effect size reported for the primary endpoint. The outcome measure was the SPPB, a group of measures that combines the results of gait speed, chair stand and balance tests. It has been shown to have predictive validity, with a gradient of risk for mortality, nursing home admission and disability.

“In this study, the between-group difference in mean SPPB score at 4 months was 0.74 (95% CI 0.18 to 1.30) and at 12 months was 0.69 (95% CI 0.10 to 1.28). The authors stipulated that a change of 1 point in the SPPB was a ‘substantial meaningful’ change, and 0.5 points a ‘small meaningful’ change. Nevertheless, the changes in this study, although statistically different, could be considered clinically very small. The overall mean SPPB in the intervention group only increased from 3.59 to 5.12, with similar small differences in secondary functional outcomes (Barthel Index 1 point and Nottingham ADL [activities of daily living] 6 points).

“The effects of geriatric care nonetheless were important to the patients, with a significant difference between groups in the patient-relevant outcomes of fear of falls and quality of life at 12 months.”

Study sponsorship: Norwegian Research Council, Central Norway Regional Health Authority, St Olav Hospital Trust, the Department of Neuroscience at the Norwegian University of Science and Technology, Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology (SINTEF), and the Municipality of Trondheim.

About this article: This article appeared in the December 2015 issue of the Eyes on Evidence awareness service.

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