

EDITORIAL

Rehabilitation of older people after hip (proximal femoral) fracture

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Proximal femoral, or 'hip', fracture is a major health problem in older age. It is a common condition, with a lifetime risk of around 17.5% for white women and 6% for white men.[1] It occurs predominantly in older people, and is strongly associated with comorbidity, including under-nutrition, frailty, and impaired physical and cognitive function. The burden on society from hip fracture is huge and increasing.

Prompt surgical fixation is an important first step in the treatment of hip fracture, speeding up subsequent rehabilitation and reducing the risk of limb deformity.[2] However, even with this intervention, the outcome in survivors is often a marked decline in physical function. This is accompanied by a risk of loss of independence and nursing home placement,[3] particularly for those who have prior impairment in physical function.

In this context rehabilitation has potentially a lot to offer in ensuring maximal recovery and enhancing quality of life after hip fracture. There is a series of complementary systematic reviews in *The Cochrane Library* that, taken together, address a wide range of rehabilitation issues after hip fracture. This includes reviews on multidisciplinary rehabilitation,[4] interventions targeting physical and psychosocial function,[5] nutritional supplementation,[6] and, updated in the latest issue, mobilisation strategies.[7]

At first sight the results of these reviews are disappointing, with all too often the seemingly inevitable conclusion of insufficient evidence to reach a firm recommendation to guide clinical practice. However, putting the Cochrane hip fracture reviews into the wider context of other relevant Cochrane and high-quality non-Cochrane systematic reviews, as well as evidence-based guidelines on the management and rehabilitation of other categories of older people, provides a clearer picture of how best to manage hip fracture.

The review of mobilisation strategies after hip fracture surgery covers interventions starting from the first day after surgery in hospital, and up to one year subsequently. Although the evidence is based on single trials testing a variety of interventions, in general it shows that the most successful programmes involve more intensive exercise.[7] From a biological perspective this is highly plausible. For many years it has been recognised that physical therapy is often prescribed in doses and modalities that are insufficient to generate physiological adaptation.[8]

The potential risks of more intensive physical therapy appear to be minimal; although these risks are often overstated, checks for tolerability and safety are still required. However, biological plausibility and a trend for benefit are not sufficient to allow strong recommendations to be made for clinical practice; this is one instance where a plea for further high-quality randomised controlled trials is appropriate. Similarly, there is a need for further research on interventions, such as occupational therapy, that focus on psychological and social issues.[5]

The review on nutritional supplementation after hip fracture again points out the weakness of the available evidence for this group of patients. However, it is instructive to read it alongside a more general, although not so up-to-date, review on oral protein and energy supplementation for older people.[9] This found that it is unlikely that nutritional supplements are beneficial for those older hospital patients who are well-nourished; however, there is evidence of benefit for those who are underweight. Evidence-based clinical guidelines (e.g. the UK National Institute for Health and Clinical Excellence's clinical guideline on nutrition support[10]) are generally less circumspect than the Cochrane Reviews in interpreting these data, and nutritional supplements are widely recommended for at-risk older people in hospital, including undernourished people after hip fracture. Both Cochrane Reviews, however, caution against oral supplements being considered the sole solution, with promising but inconclusive evidence for the use of assistants to help with feeding reported in the hip fracture review.[6]

Multidisciplinary rehabilitation programmes, based on a philosophy of comprehensive geriatric assessment, are targeted particularly at frail older people with multi-morbidity and physical function impairment. Most elderly people with hip fracture will fit this picture. The Cochrane Review on multidisciplinary rehabilitation after hip fracture concluded there was insufficient evidence to reach any firm conclusion of benefit for either inpatient or outpatient settings.[4] However, the review, noting both a trend towards effectiveness in the main outcomes for multidisciplinary inpatient rehabilitation and no indication of serious detriment (in patient outcome or costs), concluded that there is some rationale to justify its adoption, pending further research. Again, it is instructive to put this into the context of a more general systematic review of inpatient rehabilitation for older patients, this time recently published in the *BMJ*. [11] This found that multidisciplinary inpatient rehabilitation provided to

general (eight trials) or orthopaedic populations (nine hip fracture trials) reduces mortality, improves physical function and reduces risk of nursing home placement; these favourable findings were found in both hip fracture and general geriatric patients. There were some differences between the *BMJ* review and the Cochrane Review, particularly in inclusion criteria and outcome measures. Nonetheless, the findings of both of these reviews are supportive of co-ordinated multidisciplinary inpatient care for older hip fracture patients.

Therefore, the *Cochrane Database of Systematic Reviews* is a rich source of information on rehabilitation of older people after hip fracture. Much of relevance can be found in the reviews that specifically address hip fracture. However, there are considerable additional relevant data in Cochrane Reviews that target more general support and rehabilitation issues for older people. In practice it is difficult for even the research-trained clinician to synthesise, interpret and use this complex information, and all too easy to draw inappropriate conclusions. To enable properly informed clinical decision-making, Cochrane Reviews often need to be placed in a wider context of available high-quality evidence, which may include other Cochrane Reviews. This makes a case also for future Cochrane overviews of reviews.

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Declarations of interest

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