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Evaluating the orthogeriatric model of care at an Australian tertiary hospital

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KEYWORDS

Fractured neck of femur;
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Co-managed;
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Multidisciplinary care;
Orthogeriatric care

Abstract Introduction: The management of fragility hip fractures requires a collaborative multi-disciplinary approach to care to ensure optimal patient outcomes. It is important to rigorously evaluate the model of care and enable the delivery of evidence based optimal patient care.

Aim of the study: The aim of this study was to document an orthogeriatric model of care (OGMOC) at a major tertiary hospital: assessing how particular indicators within the patient's admission were influenced by the OGMOC.

Methods: A retrospective case analysis of all patients with fragility hip fracture from two pre-intervention groups and three post-intervention groups was undertaken. Data from (i) length of stay in the emergency department (ii) length of stay in the orthopaedic unit (iii) time from admission to surgery and (iv) time from surgery to admission to rehabilitation were used.

Results: Implementation of the OGMOC resulted in: reduced time in the emergency department, quicker access to surgery, reduced length of acute hospital stay and an increase in the number of patients accessing the rehabilitation unit.

Conclusion: This study contributes to the increasing body of evidence for best practice in the management of fragility hip fracture within an OGMOC.

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Abbreviations: ED, emergency department; LOS, length of stay; NEAT, National Emergency Access Target; NoF, neck of femur; OGMOC, orthogeriatric model of care.

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Editor comments

The value of different models of acute and continuing care of the patient with a hip fracture have been much discussed since the 1970s. This group of patients so often suffers poor outcomes and high morbidity and mortality. This paper adds to the increasing evidence that organising care for this group of patients in a way which recognises their medical care needs in balance with their needs for orthopaedic surgery and subsequent care through an 'orthogeriatric' approach benefits patient outcomes.

JS-T

Introduction

Hip fractures are a significant injury in older people and frequently lead to functional decline, morbidity and mortality ([Aged Health Network and ACI Surgical Services Taskforce, 2014](#)). Hip fracture is the term used to describe a proximal fracture of the femur ([Wakeman et al., 2009](#)). It refers to a fracture that has occurred in the area between the edge of the femoral head and 5 centimeters below the lesser trochanter ([National Clinical Guideline Centre, 2011](#)). In Australia it has been estimated that more than forty Australians fracture their hip daily. Most are sixty five years or older and more than half are aged eighty five or over ([Australian Institute of Health and Welfare AIHW, 2010](#)). Although various factors such as a fall from a standing height or less, multiple medications, poor vision and balance problems contribute to the injury ([Mayo Foundation for Medical Education and Research, 2014](#)) osteoporosis is the most important predictor of risk for hip fractures. According to [Cummings and Melton \(2002\)](#) hip fractures have become the international barometer of osteoporosis. Current data on the cost of hip fracture in Australia have recently been released by Osteoporosis Australia in the '*Burden of Disease Study*' which states that the cost of a hip fracture is significant and increases with age; USD 21,824 (AUD 23,276) for those aged 50–69 years to USD 31,605 (AUD 33,576) for those aged over 70 years with an average hospital stay of 7–12 days ([Osteoporosis Australia, 2013](#)).

In the late 1950s the orthogeriatric model of care (OGMOC) for the management of fragility hip fracture was first reported in Hastings, England. Michael Devas, an orthopaedic consultant, was an advocate for early surgery and promoted early rehabilitation even for the most frail and very elderly patients. He collaborated with his colleague Bobby Irvine, a geriatrician, to develop a clinical model that combined the care of hip fracture patients between orthopaedic and geriatric services and in doing so created orthogeriatric care in Hastings ([Barton and Mulley, 2003](#)). A literature review undertaken by [Kammerlander et al. \(2010\)](#) stated that there is a trend towards using an integrated approach to the management of patients presenting to hospital with

a fragility hip fracture. The NSW [Agency for Clinical Innovation \(ACI\) Orthogeriatric Model of Care Collaborative Group \(2010\)](#) produced a summary of current evidence and concluded that a collaborative, orthogeriatric model of care has proven to reduce LOS and lead to a 45% decreased probability of complications such as delirium, CCF, pneumonia, DVT, PE, pressure ulcers, arrhythmias or myocardial infarction and mortality. These findings support the growing body of evidence that an OGMOC for the management of patients presenting to hospital with a fragility hip fracture improves both the quality and efficiency of care delivered ([Aged Health Network and ACI Surgical Services Taskforce, 2014](#); [Aged Health Network Orthogeriatric Group ACI, 2010](#); [Agency for Healthcare Research and Quality, 2013](#); [Australia and New Zealand Hip Fracture Registry, 2013](#); [Australian and New Zealand Society for Geriatric Medicine, 2005](#); [British Orthopaedic Association, 2007](#); [National Institute for Health and Clinical Excellence, 2011a, 2011b](#)). Fragility hip fracture patients often present with complex, demanding and challenging health care needs that require a model of care that is multidisciplinary, collaborative and patient centred. Today the OGMOC for the management of fragility hip fracture is regarded as the international gold standard of care ([British Orthopaedic Association, 2007](#)).

In 2006 national benchmarking data ([Health RoundTable Limited, 2013](#)) revealed that the local hospital was performing below the national averages in some of the key performance indicators for fragility hip fracture care. This large, local, inner city hospital is one of three tertiary level facilities in the state and serves an estimated population of one million or approximately 23% of the state's population ([Metro South Health, 2013](#)). The ED at the hospital is one of the largest adult, teaching hospital Emergency Departments in Australia with 25 established acute care beds, 3 medical and 2 trauma resuscitation bays in combination with an 8 bed short stay ward, dedicated Mental Health unit and Ambulatory Care Unit. In 2013, 53,417 patients were seen with an admit/transfer rate of 38% ([Queensland Government, 2015](#)). The traditional model of care, where patients are admitted to a trauma/orthopaedic

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