# Age ain't nothing but a number - except in the pre-operative management of the geriatric patient: How the role of the geriatrician has affected surgical outcomes

Dr Nicola Quinnen[1], Dr Jack Faulkner[2]

[1]FY2 East Surrey Hospital, Surrey and Sussex Healthcare NHS Trust, [2]Surgical CT2 East Surrey Hospital, Surrey and Sussex Healthcare NHS Trust

Surrey and Sussex Healthcare NHS Trust

## Introduction

As the world's population continues to age an increasing number of older patients are undergoing elective and emergency surgery. This population can have higher risks of morbidity and mortality following surgery due to multi-morbidity, poorer physiological reserve and general frailty. Recognition of this has led to increased review of the role of Care of the Elderly physicians in the peri-operative management of geriatric patients.

## Methods

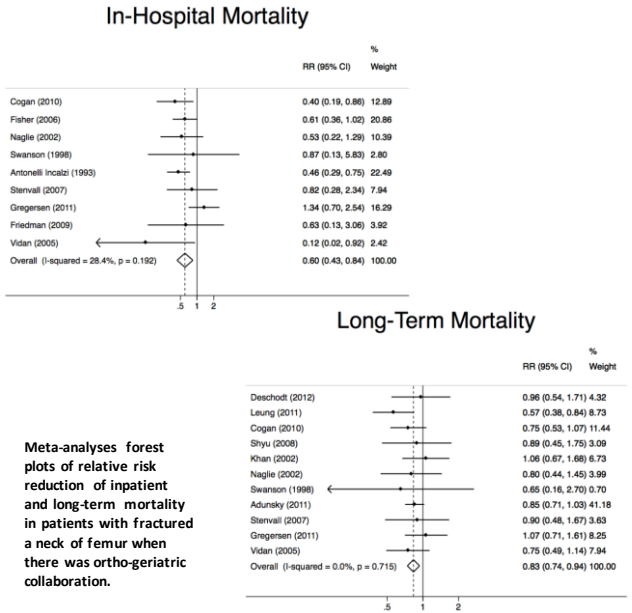
We conducted a literature review of scientific papers published up to 2018. Databases EMBASE, MEDLINE, and PubMed were searched using search strings and a further hand-search performed.

## Discussion

When stresses are put on the human body, whether this be surgical stress or an acute illness, physiological reserves are used in order to meet increased needs. In the older patient ageing results in a decline in those physiological reserves to the point that 'reserves' may be used simply to maintain homeostasis. Age-related changes occur in many areas including respiratory, cardiac, renal, immunologocal and haemopoeietic which put the patient at increased risk of mortality as described by Rosenthal et al. Older patients are also more likely to have poorer nutrition, hydration and baseline cognition that can lead to increased post-operative complications such as infections, delirium and poor wound healing[1].

It is well known that the interdisciplinary approach of geriatric and orthopaedic surgery consultant led care has led to better outcomes for patients with fractured neck of femurs. In this population there have previously been estimated one-year-mortality rates of 20-30%[2]. In a systematic review done by Grigoryan et al (covering 1992-2012 and 9094 patients) it was found that ortho-geriatric collaboration led to reduced mortality compared to groups treated only under orthopaedic surgeons.

There was relative risk reduction of inpatient mortality of 0.60, (95%CI 0.43, 0.84) and relative risk reduction of long term mortality (defined as 6 months - 1 year across the studies) of 0.83, (95%CI 0.74, 0.94)[2].



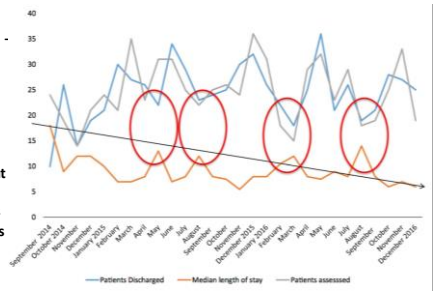

**Meta-analyses forest plots of relative risk reduction of inpatient and long-term mortality in patients with fractured a neck of femur when there was ortho-geriatric collaboration.**

In general surgery there are a high number of acute admissions with up to 40% of gastrointestinal surgeries in elderly patients occurring on an urgent or emergency basis. This is associated with up to a 10-15 fold increase in morbidity and 3-5 fold increase in mortality compared to scheduled elective surgery for this cohort. Compared to younger patient groups there is also an increased morbidity (28% vs 10%) and mortality (15.2% vs 2.5%). However, there is still little literature available on the specific prognostic factors for morbidity and mortality in this population[3].

Partridge et al have discussed the comprehensive geriatric assessment (CGA) approach which involves concomitant assessment and medical optimisation of elderly patients whilst also managing issues pertinent to that acute surgical episode[4]. At publication only three of 181 acute centres had adopted Perioperative Care of Older Persons (POPS) input throughout the pathway with a further 28 providing either pre- or post-operative geriatric care.

At an NHS trust in England a general surgical in-reach geriatric service has been developed for both elective and emergency admissions as described by Vilches-Morago & Fox in which two geriatric consultants provide clinical care sessions to the general surgery wards[5]. They evaluated how many patients were assessed as well as number of discharges and length of stay. Following full implementation of the service in February 2015 LOS was shown to drop from 12.2 days to 9 days. In addition to this there was a correlation of when geriatric consultants in the service were on leave and there being significant reductions in numbers of patients assessed/discharged and longer LOS. Further evaluation of effects on morbidity and mortality in these patient groups is needed to further evaluate whether this approach can improve outcomes in a similar manner to fractured neck of femur patients.

**Salford Perioperative Care of Older People - General Surgery September 2014 to December 2016. Number of patients assessed, discharged and their length of stay. Circles represent periods of time with significant reductions in number of patients assessed/discharged and longer LOS**




## Conclusion

As surgical practices have improved and led to an increased service being available to older patients so has the need for safe practices in managing operative risks and outcomes. Literature so far shows that specialised geriatric medicine input leads to decreased morbidity and mortality for these patients. This is not currently standard practice in many surgical specialties. Expanding geriatric service provision for the older surgical patient in more surgical specialties could lead to improved patient outcomes in the initial post-operative period and in the long term and there is a large scope for continuing to introduce and evaluate these practices in the UK.

**References**

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