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The Effect Of Becoming A Major Trauma Centre On The Management Of Elderly Hip Fracture Patients

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Introduction: Osteoporotic hip fractures are an increasing challenge to health care systems and society due to the ageing of our population. The introduction of the National Hip Fracture Database (NHFD), and the Best Practice Tariff in England and Wales aims to standardise and optimise hip fracture management. Delay to theatre has been shown to increase post-operative mortality and morbidity. With the advent of regional Major Trauma Centres, the orthopaedic surgical workload in such hospitals is likely to increase, possibly to the detriment of hip fracture patients.

Objectives: Our hospital became a Major Trauma Centre on 1st April 2012. The aim of this study was to analyse the delay to theatre, length of stay, and 30 day mortality rates for elderly hip fracture patients during the year before and the year after 1st April 2012.

Methods: All patients aged 60 years and over, who were admitted to our institution with a primary diagnosis of hip fracture during the twelve months prior to (pre-MTC group), and the twelve months following becoming an MTC (post-MTC group) were included in the study. Those patients treated non-operatively, or for whom incomplete data was available, or who had their fracture treated elsewhere prior to admission were excluded. Data was collected from the hospital NHFD entries and the electronic medical records regarding age, sex, ASA, type of fracture, length of delay to theatre, reason for delay to theatre, length of acute hospital stay, and 30 day mortality.

Results: Following application of the exclusion criteria, data was analysed for a total of 841 patients (381 pre-MTC and 460 post-MTC). The two groups were matched with respect to age, sex, ASA and type of fracture. There was a statistically significant difference between the pre- and post-MTC groups in the delay to theatre for patients who were otherwise medically fit for surgery (26.78 hrs v 32.15hrs, $p < 0.0001$). There was no statistically significant difference in the acute hospital length of stay between the two groups (16.22 days v 16.74 days $p = 0.2888$). The 30-day mortality rate was 4.7% pre-MTC, and 8.0% post-MTC ($p = 0.0580$).

Conclusions: These results suggest that becoming a Major Trauma Centre has led to a significant increase in the delay to surgical management of our hip fracture patients. Whilst the overall length of stay has not significantly increased, there is a rise in the 30 day mortality rate, although this did not reach statistical significance. Based on these results we would advocate the introduction of dedicated theatre lists for the treatment of hip fracture patients, such that they are not competing for theatre time, but rather are managed in parallel with the severely and multiply injured patients at Major Trauma Centres.