

## Fractured Neck Of Femur – When Should You Let The Surgeons Operate?

James French

*The Canberra Hospital, Canberra, Australia*

Despite advances in peri-operative care, the high mortality relating to fractured neck of femur has remained essentially unchanged for the past 40 years<sup>1</sup>. Current attempts to address this anomaly have resulted in the promulgation of evidence based guidelines that recommend operative fixation within 24 hours following admission<sup>2,3</sup>. This benchmark has been utilised by health services to audit adherence to clinical standards<sup>4,5</sup>. Prior to endorsing the implementation of surgical timing based on the current recommendations it is prudent to reflect on the limitations of the available evidence and the disparate cohort of patients to whom guidelines may apply.

The relationship between operative delay and mortality rates has only been examined by observational studies. While methodological flaws limit many studies and results are conflicting, a recent systematic review summarised the data. The authors found that delayed surgery increased the odds of 30 day mortality by 44%. A crucial caveat however, was that the association was strongest for young patients with a low baseline risk of mortality. Conversely, older patients with a high baseline risk will not benefit so much from early surgery<sup>6</sup>.

Recognition that the scientific evidence does not support fast tracking high risk fractured neck of femur patients negates many arguments which seek to curtail preoperative investigations in the interests of expedient surgery. Nonetheless, Anaesthetists should be mindful of the analgesic and humanitarian benefits of timely fracture fixation and ensure that careful patient assessment justifies delays for the purpose of medical investigations. Heart disease is a common comorbidity in this population and cardiac evaluation can cause delays without necessarily influencing management<sup>7</sup>. A recent survey of perioperative anaesthetic management found that there was no clear consensus as to the use of preoperative echocardiography<sup>8</sup>.

Anticoagulation is frequently cited as an unwarranted cause of delayed surgery. Warfarin should be reversed with low dose intravenous vitamin K and patients can subsequently receive anticoagulation in accordance with their risk of thromboembolism<sup>9</sup>. Recent evidence challenges the traditional five to seven day wait after cessation of clopidogrel and recommends surgical and anaesthetic management based on an individualised risk benefit analysis<sup>10,11</sup>.

The available evidence strongly supports minimising non-medical causes of delay to operative fixation for fractured neck of femur.

### References

1. Haleem S, Lutchman L, Mayahi R, Grice JE, Parker MJ. Mortality following hip fracture: trends and geographical variations over the last 40 years. *Injury* 2008; 39: 1157-63
2. Chilov MN, Cameron ID, March LM. Evidence-based guidelines for fixing broken hips: an update. *MJA* 2003; 179: 489-93

3. New Zealand Guidelines Group. Acute management and immediate rehabilitation after hip fracture amongst people aged 65 years and over. 2003
4. Scottish Hip Fracture Audit. National Waiting Times Unit – Time to Theatre Compliance. 2008
5. NHS Institute for Innovation and Improvement. Focus On: Fractured Neck of Femur. 2006
6. Toshiya S, Zen'ichiro W, Yoko O. Is operative delay associated with increased mortality of hip fracture patients? Systematic review, meta-analysis, and meta-regression. *Can J Anesth* 2008; 55: 146-54
7. Ricci W, Della Rocca GJ, Combs C, Borrelli Jr J. The medical and economic impact of preoperative cardiac testing in elderly patients with hip fractures. *Injury* 2007; 38S3: S49-52
8. Sandby-Thomas M, Sullivan G, Hall JE. A national survey into the peri-operative anaesthetic management of patients presenting for surgical correction of a fractured neck of femur. *Anaesthesia* 2008; 63: 250-58
9. Al-Rashid M, Parker MJ. Anticoagulation management in hip fracture patients on warfarin. *Injury* 2005; 36: 1311-15
10. Johansen A, White J, Turk A. Clopidogrel therapy – Implications for hip fracture surgery. *Injury* 2008; 39: 1188-90
11. Wordsworth DR, Parker MJ, Griffiths R, Halsey T. Clopidogrel and hip fracture: A case series of 798 patients to one year. *Injury Extra* 2009; 40: 233