Reviewer's report

**Title:** Modifiable factors contribute to limitation in physical activity following thoracotomy and lung resection: a prospective observational study

**Version:** 1  
**Date:** 5 January 2014

**Reviewer:** Douglas West

**Reviewer's report:**

This is an observational study of factors associated with decreased mobility after thoracotomy and lung resection, with routine epidural use. Mobility was determined by asking patients to wear motion sensors in the inpatient perioperative period. Data was collected as part of a wider randomised trial.

For analysis patients have been dichotomised into high and low activity groups.

The study design and analysis is appropriate, and the reporting of results is very clear. Logistic regression modelling of predictors of complications has been appropriately used to identify confounding in this part of the study.

Since reduced activity post-operatively is known to be related to poor outcomes (and was in this study) identification of predictive factors is important. The current interest in enhanced recovery protocols makes this a topical subject.

This study could therefore be accepted for publication without major revision.

There are minor points which the authors could address;

(1) Page 10 "Discussion" paragraph 2 sentence 1 contains a reference manager error message which should be removed.

(2) It would be interesting to know more about how the cut-off point to classify patients as "low activity". As basket of outcomes has been used, with below median results used to define "low activity". I would like to know if these cut-offs were pre-defined, or had bee validated elsewhere.

(3) The title suggests an important role for modifiable factors. As I understand the output of the multivariable model (page 9), age, predicted FEV1 and pre-op activity were the only independent predictors. These are largely not modifiable, or partially modifiable. I wonder if the title is slightly overstated?

As a limitation, I agree with the authors that some aspects of this study’s findings (recruited between 2008-10) are likely to become outdated, as portable chest drain suction devices, a move away from epidural anaesthesia and minimal access major lung resections become more common. These changes in practice are likely to increase early mobility. This is covered well in the discussion.

**Level of interest:** An article of importance in its field
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.