Reviewer's report

Title: Use of Cerebral State Index to Predict Long-Term Unconsciousness in Patients after Elective Craniotomy with Delay Recovery

Version: 2 Date: 4 May 2010

Reviewer: L Gerard Toussaint III

Reviewer's report:

1. Is the question posed by the authors well defined?
   Yes, the question is well-defined. Delay in recovery following craniotomy is an important clinical conundrum. Predicting recovery by 24 hours with an early test would be useful.

   At 6 hours, there were 12 patients left to recover, and 50% went on to continued deficit at 24 hours while 50% did recover before then. The test helps differentiate these patients earlier.

2. Are the methods appropriate and well described?
   Yes, although I did not become as familiar with the CSI as I would have liked. Specifically, are leads attached bilaterally or only over the dominant hemisphere? When, exactly, was CSI recorded? In methods, the operative anesthetic was sevofofluorane, yet they recovered while turning off isofluorane - when the switch from one to the other?

3. Are the data sound?
   They do seem sound and well-recorded.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   There should be some discussion about language dominance. If the outcome was the ability to follow commands then receptive language function would be important to note. Further, are right sided post-op hematomas missed with both their early test CSI, and the late ability to follow commands?

6. Are limitations of the work clearly stated?
   Yes, some drawbacks are noted.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   To my knowledge, yes.
8. Do the title and abstract accurately convey what has been found? Yes.

9. Is the writing acceptable?

   Although the english is acceptable, there were some areas to improve - Background paragraph one - "confusional state" could be described differently.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'