Reviewer's report

Title: A Comparative Analysis of Multi-Level Computer-Assisted Decision Making Systems for Traumatic Brain Injuries

Version: 1 Date: 27 February 2008

Reviewer: Michael Diringer

Reviewer's report:

Major Compulsory Revisions
From a clinical perspective a number of factors require clarification.
1. The source of the clinical data is not described â## was it prospectively collected? What were the inclusion criteria? These issues have important implications in terms of generalizability of the results.
2. Is the patient population drawn from one institutional which may have biases limiting the generalizability of any finding?
3. Was any validity testing performed on the data collection tools?
4. Were the rules tested on a separate dataset?
5. Several references are made to use of rules leading to improved resource allocation which implied limiting use of resources in patients predicted to have a very poor or fatal outcome. Such a rule would have to rigorously avoid false positives; this issue as well as the trade off in terms of sensitivity should be discussed.
6. The relationship between expected length of stay and helicopter transport is not at all clear and should be elaborated.
7. The datasets are missing important variables with know prognostic values â## for example the presence of hypoxia in the field ,

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

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