Reviewer's report

Title: Utilization of Base Deficit and Reliability of Base Deficit as a Surrogate for Serum Lactate in the Peri-Operative Setting

Version: 3 Date: 13 May 2010

Reviewer: Matthew Martin

Reviewer's report:

The authors appear to have made appropriate revisions to the manuscript and addressed all reviewer comments and questions. However, there remain two issues that should be corrected/clarified, involving Tables 2 and 3.

Major compulsory revisions:

1. Table 2 is somewhat confusing. There should not be separate columns for "Mean" and "SD". In fact, for many of the variables the data presented in the column is not the mean, but is the absolute number and the percentage - i.e. gender, race, etc. This should simply be in one column with a heading of "Study Population (N=35)" and then the data for each variable reported as either mean +/- standard deviation or absolute number (percentile). For ASA class, the category labels for ASA classification should be listed in the left column, and then the number in each category (with the percentile in parentheses) should be in the right column. As it is now, it is unclear that the numbers 2, 3, and 4 represent the ASA category and not the number of patients.

2. Table 3: Can you explain how you are finding no correlation between bicarbonate and base deficit (r= -0.08)? These two measures are highly correlated in multiple prior studies, and if the bicarb was obtained from the blood gas analyzer then these two measures should be almost perfectly correlated.

Thank you and I look forward to your responses to these two remaining issues and seeing this article in print.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests