ONLINE APPENDIX

Supplemental Table 1: Univariate vs multiple logistic regression of clinical and biochemical data with mental status (alert vs altered) as dependent variable.

|                      | Univariate Analysis | Multivariate Analysis |
|----------------------|---------------------|-----------------------|
|                      | t-value  | p-value  | Odd ratio | p-value |
| pH                   | 6.87     | < 0.0001 | 15.89     | > 999.99 | 0.001  |
| HCO₃                 | 4.70     | <0.0001  | 0.91      | 1.14     | 0.792  |
| Glucose              | -3.61    | 0.0004   | 0.99      | 1.00     | 0.711  |
| BUN                  | -3.49    | 0.0007   | 0.97      | 1.01     | 0.304  |
| WBC                  | -3.32    | 0.001    | 0.92      | 1.02     | 0.223  |
| Creatinine           | -3.07    | 0.003    | 0.74      | 1.24     | 0.755  |
| Diastolic BP         | 2.28     | 0.023    | 0.96      | 1.02     | 0.468  |
| Systolic BP          | 2.43     | 0.022    | 0.99      | 1.04     | 0.282  |
| Osmolality           | -2.07    | 0.041    | 0.97      | 1.00     | 0.142  |

Supplemental Table 2: Sensitivity and Specificity (%) of pH and Osmolality as predictors of altered mentation in all 216 subjects:

| Osmolality Quartile | pH Quartile | 1   | 2   | 3   | 4   |
|---------------------|-------------|-----|-----|-----|-----|
| 1                   | Sensitivity | 19  | 51  | 75  | 88  |
|                     | Specificity | 98  | 87  | 65  | 32  |
| 2                   | Sensitivity | 33  | 69  | 81  | 94  |
|                     | Specificity | 94  | 76  | 48  | 14  |
| 3                   | Sensitivity | 41  | 71  | 86  | 100 |
|                     | Specificity | 93  | 69  | 39  | 6   |
| 4                   | Sensitivity | 61  | 78  | 93  | 100 |
|                     | Specificity | 87  | 57  | 20  | 0   |

The first (lowest) quartile of pH and the fourth (highest) quartile of osmolality predicted depressed consciousness at presentation with 61% sensitivity and 87% specificity.
**Supplemental Figure 1** Quartiles of pH and Osmolality as predictors of altered mentation in all 216 subjects.
Supplemental Figure 2  ROC curve of odds ratio for presenting with altered mentation in all 216 subjects with pH and serum osmolarity as dependent variables.