**Table A3: Predictors of Persistent Organ Dysfunction + Death (POD+D) for Emergency Department patients with acute respiratory failure who were exposed to NIV for ≤ 4 hours (“Brief”) or for > 4 hours of NIV (“Extended”) prior to intubation within 48 hours of presentation: Results from the multivariate regression model**

|  |  |  |  |
| --- | --- | --- | --- |
| Covariates  | OR | 95% CI | p-value |
| “Extended” vs. “Brief” use of NIV | **4.11** | **1.51** | **11.19** | **0.0057** |
| Age | 1.00 | 0.97 | 1.03 | 0.95 |
| Race |  |  |  |  |
|  Caucasian | Reference |  |  |  |
|  African American | 0.45 | 0.11 | 1.91 | 0.28 |
|  Hispanic | 1.08 | 0.26 | 4.58 | 0.92 |
|  Other | 1.54 | 0.22 | 10.64 | 0.66 |
|  Unknown | 0.21 | 0.01 | 3.10 | 0.256 |
| Reason for Intubation |  |  |  |  |
|  Hypercapneic Respiratory Failure | Reference |  |  |  |
|  Hypoxemic Respiratory Failure | 2.53 | 0.82 | 7.78 | 0.11 |
|  Altered Mental Status | 2.40 | 0.39 | 14.89 | 0.35 |
|  Shock | 11.74 | 0.79 | 173.62 | 0.07 |
|  Work of breathing  | >999 | <0.001 | >999 | 0.98 |
|  Mixed | 3.42 | 0.62 | 18.89 | 0.16 |
| MPM0-III score  | 1.02 | 0.99 | 1.05 | 0.17 |
| Risk of ARDS | 1.73 | 0.55 | 5.46 | 0.35 |
| Mechanical Ventilation Days | 1.09 | 1.04 | 1.15 | >0.001 |

**AIC = 141.94; Hosmer Lemeshow goodness of fit p = 0.95**

Abbreviations: *NIV*=Non-invasive ventilation; *OR*=Odds ratio; *95% CI*=95% Confidence Interval; *MPM0-III*=Mortality Probability Model on Admission (severity of illness); *ARDS*= Acute respiratory Distress Syndrome; *AIC*= Akaike information criterion