**Supplemental Table 1: Multivariable Predictive Algorithm of 30-Day Mortality for Comorbidities by Complexity**

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| **Multivariable Predictive Algorithm of 30-Day Mortality for Comorbidities by Complexity** | | | | | | | | | | | | |
| **Weight < 5kg** | **ASA III or higher** | **Sepsis** | **Inotropic Support** | **Ventilator Dependence** | **Low Intrinsic Surgical Risk (RQ1/RQ2)** | | | | **High Intrinsic Surgical Risk (RQ3/RQ4)** | | | |
| **Number of Cases** | **Number of Mortalities (%)** | **Model-based Probability of Mortality** | **95% CI** | **Number of Cases** | **Number of Mortalities (%)** | **Model-based Probability of Mortality** | **95% CI** |
| Yes | Yes | Yes | Yes | Yes | 4 | 0 (0.00%) | 4.74% | (3.17%, 7.03%) | 340 | 133 (39.12%) | 46.72% | (43.04%, 50.44%) |
| No | Yes | Yes | Yes | Yes | 18 | 2 (11.11%) | 2.39% | (1.58%, 3.58%) | 130 | 33 (25.38%) | 30.10% | (26.47%, 34%) |
| Yes | Yes | No | Yes | Yes | 13 | 0 (0.00%) | 1.55% | (1.02%, 2.33%) | 658 | 144 (21.88%) | 21.70% | (19.39%, 24.2%) |
| Yes | Yes | Yes | No | Yes | 16 | 1 (6.25%) | 1.03% | (0.68%, 1.56%) | 494 | 81 (16.40%) | 15.50% | (13.57%, 17.64%) |
| Yes | Yes | Yes | Yes | No | . | . | 0.95% | (0.62%, 1.47%) | 14 | 5 (35.71%) | 14.52% | (12.03%, 17.42%) |
| No | Yes | No | Yes | Yes | 20 | 1 (5.00%) | 0.77% | (0.5%, 1.17%) | 141 | 26 (18.44%) | 11.98% | (10.18%, 14.05%) |
| Yes | No | Yes | Yes | Yes | . | . | 0.59% | (0.37%, 0.94%) | 1 | 1 (100.00%) | 9.47% | (6.75%, 13.15%) |
| No | Yes | Yes | No | Yes | 93 | 0 (0.00%) | 0.51% | (0.34%, 0.77%) | 368 | 33 (8.97%) | 8.27% | (7.04%, 9.69%) |
| No | Yes | Yes | Yes | No | 30 | 0 (0.00%) | 0.47% | (0.31%, 0.72%) | 53 | 13 (24.53%) | 7.70% | (6.34%, 9.32%) |
| Yes | Yes | No | No | Yes | 162 | 0 (0.00%) | 0.33% | (0.22%, 0.49%) | 4,297 | 248 (5.77%) | 5.48% | (4.95%, 6.07%) |
| Yes | Yes | No | Yes | No | 9 | 0 (0.00%) | 0.30% | (0.2%, 0.47%) | 121 | 13 (10.74%) | 5.09% | (4.23%, 6.12%) |
| No | No | Yes | Yes | Yes | 1 | 0 (0.00%) | 0.29% | (0.18%, 0.46%) | 2 | 0 (0.00%) | 4.89% | (3.42%, 6.95%) |
| Yes | Yes | Yes | No | No | 43 | 0 (0.00%) | 0.20% | (0.13%, 0.31%) | 326 | 15 (4.60%) | 3.43% | (2.85%, 4.12%) |
| Yes | No | No | Yes | Yes | . | . | 0.19% | (0.12%, 0.3%) | 3 | 0 (0.00%) | 3.20% | (2.24%, 4.55%) |
| No | Yes | No | No | Yes | 1,224 | 0 (0.00%) | 0.16% | (0.11%, 0.24%) | 2,761 | 75 (2.72%) | 2.77% | (2.4%, 3.19%) |
| No | Yes | No | Yes | No | 142 | 0 (0.00%) | 0.15% | (0.1%, 0.23%) | 263 | 8 (3.04%) | 2.57% | (2.12%, 3.11%) |
| Yes | No | Yes | No | Yes | 1 | 0 (0.00%) | 0.12% | (0.08%, 0.2%) | 11 | 0 (0.00%) | 2.14% | (1.49%, 3.07%) |
| Yes | No | Yes | Yes | No | . | . | 0.11% | (0.07%, 0.18%) | . | . | 1.99% | (1.36%, 2.89%) |
| No | Yes | Yes | No | No | 2,125 | 2 (0.09%) | 0.10% | (0.07%, 0.15%) | 1,642 | 40 (2.44%) | 1.72% | (1.45%, 2.03%) |
| No | No | No | Yes | Yes | . | . | 0.09% | (0.06%, 0.15%) | 2 | 0 (0.00%) | 1.60% | (1.1%, 2.31%) |
| Yes | Yes | No | No | No | 2,445 | 1 (0.04%) | 0.06% | (0.04%, 0.1%) | 11,902 | 118 (0.99%) | 1.11% | (0.98%, 1.26%) |
| No | No | Yes | No | Yes | 10 | 0 (0.00%) | 0.06% | (0.04%, 0.1%) | 9 | 0 (0.00%) | 1.06% | (0.74%, 1.53%) |
| No | No | Yes | Yes | No | 13 | 0 (0.00%) | 0.06% | (0.04%, 0.09%) | 2 | 0 (0.00%) | 0.99% | (0.68%, 1.42%) |
| Yes | No | No | No | Yes | 14 | 0 (0.00%) | 0.04% | (0.02%, 0.06%) | 174 | 3 (1.72%) | 0.69% | (0.48%, 0.97%) |
| Yes | No | No | Yes | No | 11 | 0 (0.00%) | 0.04% | (0.02%, 0.06%) | 7 | 0 (0.00%) | 0.64% | (0.44%, 0.92%) |
| No | Yes | No | No | No | 30,775 | 15 (0.05%) | 0.03% | (0.02%, 0.05%) | 33,364 | 161 (0.48%) | 0.55% | (0.49%, 0.62%) |
| Yes | No | Yes | No | No | 79 | 0 (0.00%) | 0.02% | (0.02%, 0.04%) | 56 | 0 (0.00%) | 0.42% | (0.29%, 0.61%) |
| No | No | No | No | Yes | 151 | 0 (0.00%) | 0.02% | (0.01%, 0.03%) | 126 | 2 (1.59%) | 0.34% | (0.24%, 0.48%) |
| No | No | No | Yes | No | 367 | 0 (0.00%) | 0.02% | (0.01%, 0.03%) | 161 | 0 (0.00%) | 0.31% | (0.22%, 0.45%) |
| No | No | Yes | No | No | 22,270 | 0 (0.00%) | 0.01% | (0.01%, 0.02%) | 1,220 | 1 (0.08%) | 0.21% | (0.15%, 0.29%) |
| Yes | No | No | No | No | 8,938 | 3 (0.03%) | 0.01% | (0%, 0.01%) | 3,302 | 9 (0.27%) | 0.13% | (0.1%, 0.19%) |
| No | No | No | No | No | 205,085 | 4 (0.00%) | 0.00% | (0%, 0.01%) | 30,164 | 18 (0.06%) | 0.07% | (0.05%, 0.09%) |

**Example:** A less than 5 kg, ASA III patient, septic on inotropic support and mechanically ventilated undergoing a low intrinsic surgical risk procedure (ie within the RQ1 or RQ2) has a 4.74% probability of mortality. That same patient undergoing a high intrinsic surgical risk procedure (RQ3 or RQ4) has a 46.72% probability of mortality