**Supplement Table 1: PEEP classification table:**

| PEEP | Sensitivity | Specificity | FalsePositive | FalseNegative |
| --- | --- | --- | --- | --- |
| 6 | 47.1 | 61.0 | 33.3 | 59.0 |
| 7 | 41.2 | 73.2 | 28.2 | 57.1 |
| 8 | 26.5 | 80.5 | 30.8 | 60.2 |
| 9 | 25.0 | 92.7 | 15.0 | 57.3 |
| 10 | 13.2 | 92.7 | 25.0 | 60.8 |

**Supplement Table 2: P/F classification table:**

| Pao2\_FiO2 | Sensitivity | Specificity | FalsePositive | FalseNegative |
| --- | --- | --- | --- | --- |
| 42 | 1.4 | 97.6 | 50.0 | 64.6 |
| 60 | 2.7 | 95.1 | 50.0 | 64.9 |
| 61 | 2.7 | 95.1 | 50.0 | 64.9 |
| 70 | 6.8 | 95.1 | 28.6 | 63.9 |
| 75 | 6.8 | 95.1 | 28.6 | 63.9 |
| 82 | 8.1 | 95.1 | 25.0 | 63.6 |
| 83 | 8.1 | 95.1 | 25.0 | 63.6 |
| 89 | 10.8 | 95.1 | 20.0 | 62.9 |
| 90 | 10.8 | 95.1 | 20.0 | 62.9 |
| 93 | 10.8 | 95.1 | 20.0 | 62.9 |
| 98 | 14.9 | 92.7 | 21.4 | 62.4 |
| 105 | 17.6 | 90.2 | 23.5 | 62.2 |
| 110 | 17.6 | 90.2 | 23.5 | 62.2 |
| 113 | 18.9 | 90.2 | 22.2 | 61.9 |
| 116 | 18.9 | 90.2 | 22.2 | 61.9 |
| 118 | 21.6 | 90.2 | 20.0 | 61.1 |
| 120 | 21.6 | 90.2 | 20.0 | 61.1 |
| 124 | 27.0 | 85.4 | 23.1 | 60.7 |
| 125 | 27.0 | 85.4 | 23.1 | 60.7 |
| 128 | 27.0 | 85.4 | 23.1 | 60.7 |
| 130 | 27.0 | 85.4 | 23.1 | 60.7 |
| 132 | 31.1 | 82.9 | 23.3 | 60.0 |
| 133 | 31.1 | 82.9 | 23.3 | 60.0 |
| 135 | 31.1 | 82.9 | 23.3 | 60.0 |
| 136 | 31.1 | 82.9 | 23.3 | 60.0 |
| 140 | 33.8 | 80.5 | 24.2 | 59.8 |
| 142 | 33.8 | 80.5 | 24.2 | 59.8 |
| 143 | 39.2 | 75.6 | 25.6 | 59.2 |
| 145 | 39.2 | 75.6 | 25.6 | 59.2 |
| 146 | 39.2 | 75.6 | 25.6 | 59.2 |
| 148 | 39.2 | 75.6 | 25.6 | 59.2 |
| 149 | 41.9 | 73.2 | 26.2 | 58.9 |
| 150 | 41.9 | 73.2 | 26.2 | 58.9 |
| 151 | 41.9 | 73.2 | 26.2 | 58.9 |
| 152 | 41.9 | 73.2 | 26.2 | 58.9 |
| 157 | 45.9 | 70.7 | 26.1 | 58.0 |
| 160 | 45.9 | 70.7 | 26.1 | 58.0 |
| 163 | 47.3 | 68.3 | 27.1 | 58.2 |
| 165 | 47.3 | 68.3 | 27.1 | 58.2 |
| 168 | 48.6 | 68.3 | 26.5 | 57.6 |
| 171 | 48.6 | 68.3 | 26.5 | 57.6 |
| 176 | 51.4 | 65.9 | 26.9 | 57.1 |
| 180 | 51.4 | 61.0 | 29.6 | 59.0 |
| 182 | 51.4 | 61.0 | 29.6 | 59.0 |
| 184 | 54.1 | 61.0 | 28.6 | 57.6 |
| 188 | 58.1 | 61.0 | 27.1 | 55.4 |
| 190 | 58.1 | 61.0 | 27.1 | 55.4 |
| 194 | 62.2 | 58.5 | 27.0 | 53.8 |
| 195 | 62.2 | 58.5 | 27.0 | 53.8 |
| 196 | 62.2 | 58.5 | 27.0 | 53.8 |
| 200 | 66.2 | 51.2 | 29.0 | 54.3 |
| 202 | 66.2 | 51.2 | 29.0 | 54.3 |
| 205 | 67.6 | 48.8 | 29.6 | 54.5 |
| 208 | 67.6 | 48.8 | 29.6 | 54.5 |
| 211 | 68.9 | 48.8 | 29.2 | 53.5 |
| 213 | 68.9 | 48.8 | 29.2 | 53.5 |
| 217 | 71.6 | 43.9 | 30.3 | 53.8 |
| 223 | 71.6 | 41.5 | 31.2 | 55.3 |
| 224 | 73.0 | 41.5 | 30.8 | 54.1 |
| 225 | 73.0 | 41.5 | 30.8 | 54.1 |
| 228 | 73.0 | 41.5 | 30.8 | 54.1 |
| 230 | 77.0 | 41.5 | 29.6 | 50.0 |
| 233 | 77.0 | 41.5 | 29.6 | 50.0 |
| 235 | 78.4 | 41.5 | 29.3 | 48.5 |
| 238 | 78.4 | 41.5 | 29.3 | 48.5 |
| 239 | 81.1 | 39.0 | 29.4 | 46.7 |
| 240 | 81.1 | 39.0 | 29.4 | 46.7 |
| 247 | 86.5 | 34.1 | 29.7 | 41.7 |
| 248 | 86.5 | 29.3 | 31.2 | 45.5 |
| 250 | 86.5 | 29.3 | 31.2 | 45.5 |
| 252 | 86.5 | 29.3 | 31.2 | 45.5 |
| 254 | 87.8 | 22.0 | 33.0 | 50.0 |
| 257 | 87.8 | 22.0 | 33.0 | 50.0 |
| 260 | 89.2 | 22.0 | 32.7 | 47.1 |
| 265 | 89.2 | 17.1 | 34.0 | 53.3 |
| 268 | 89.2 | 14.6 | 34.7 | 57.1 |
| 270 | 89.2 | 14.6 | 34.7 | 57.1 |
| 274 | 91.9 | 12.2 | 34.6 | 54.5 |
| 275 | 91.9 | 12.2 | 34.6 | 54.5 |
| 277 | 91.9 | 12.2 | 34.6 | 54.5 |
| 278 | 91.9 | 12.2 | 34.6 | 54.5 |
| 288 | 95.9 | 7.3 | 34.9 | 50.0 |
| 290 | 95.9 | 7.3 | 34.9 | 50.0 |

**Supplement Table 3: Multivariable model classification table:**

| ProbLevel | Sensitivity | Specificity | FalsePositive | FalseNegative |
| --- | --- | --- | --- | --- |
| 0.350 | 93.9 | 26.8 | 32.6 | 26.7 |
| 0.400 | 89.4 | 34.1 | 31.4 | 33.3 |
| 0.450 | 86.4 | 41.5 | 29.6 | 34.6 |
| 0.500 | 77.3 | 48.8 | 29.2 | 42.9 |
| 0.550 | 72.7 | 58.5 | 26.2 | 42.9 |
| 0.600 | 63.6 | 70.7 | 22.2 | 45.3 |
| 0.650 | 56.1 | 70.7 | 24.5 | 50.0 |
| 0.700 | 43.9 | 78.0 | 23.7 | 53.6 |
| 0.750 | 34.8 | 80.5 | 25.8 | 56.6 |
| 0.800 | 22.7 | 82.9 | 31.8 | 60.0 |
| 0.850 | 18.2 | 90.2 | 25.0 | 59.3 |
| 0.900 | 13.6 | 92.7 | 25.0 | 60. |

**Supplementary Figure 1: Comparison of PaO2/FiO2 Ratio (P/F), Mean Airway Pressure) (MAP) and Positive End Expiratory Pressure (PEEP) in patients with and without AKI.**





