**Supplemental Table 1.** Sensitivity Analysis: LASSO regression analysis of risk factors for hypoxemia (SpO2<90% for ≥ 3 minutes continuously) in young children undergoing thoracic surgery and one lung ventilation including anonymous institution code.

|  |  |  |  |
| --- | --- | --- | --- |
| N=307 | Odds Ratio | 95% CI | P Value |
|  Age  | 0.74 | 0.44 - 1.20 | 0.228 |
| ASA 3 or 4 (%)  | \* | - | - |
| Left Sided Cases | 0.42 | 0.224 - 0.76 | 0.005 |
| OLV Duration  | 1.237 | 1.01 - 1.52 | 0.041 |
| Bronchial Blocker | 0.312 | 0.131 - 0.71 | 0.007 |
| Preop SpO2<98%  | 2.03 | 0.87 - 4.70 | 0.097 |
| Lower Tidal Volume Ventilation  | 2.08 | 0.96 - 4.55 | 0.064 |
| VATS | 0.67 | 0.291 - 1.51 | 0.331 |
| Type of Surgery |  |  |  |
| 1 | \* | - | - |
| 2 | \* | - | - |
| 3 | 0.344 | 0.069 - 1.27 | 0.141 |
| 4 | 0.53 | 0.152 - 1.58 | 0.274 |
| Institution ID |  |  |  |
| 10 | \* | - | - |
| 13 | 0.64 | 0.017 - 23.8 | 0.793 |
| 15 | 1.44 | 0.039 - 50.6 | 0.827 |
| 16 |  \* | -  | -  |
| 18 | 0.87 | 0.082 - 21.2 | 0.915 |
| 19 | 1.48 | 0.184 - 32.5 | 0.746 |
| 27 | 2.52 | 0.301 - 56.0 | 0.452 |
| 39 | 6.44 | 0.68 - 151 | 0.145 |
| 42 | 1.16 | 0.091 - 30.1 | 0.915 |
| 46 |  \* |  - |  - |
| 47 |  \* |  - |  - |
| 48 | 2.81 | 0.352 - 60.7 | 0.391 |
| 5 |  \* | -  | -  |
| 53 | 3.32 | 0.383 - 74.4 | 0.332 |
| 7 | 1.64 | 0.045 - 60.4 | 0.767 |

LASSO = least absolute shrinkage and selection operator; SpO2=oxygen saturation; OLV=one lung ventilation; VATS= video assisted thoracoscopic surgery; Type of surgery: 1 = lung wedge or lobe resection, 2 = pleurodesis or decortication, 3 = mediastinal surgery, 4 = other.

\*Covariate beta-coefficient reduced to 0 by LASSO regression method.

The Lamda values used for analysis ranged from 0.00001 to 0.05. The optimal lambda value was λ= 0.0168 with alpha value of 1.