

Supplement Table 5. Multivariable LASSO Regression Analysis In 4-9 Years of Age Cohort With Documented One-Lung Ventilation “Start” And “End” Times.

N=148	Hypoxemia OR (95% CI), P Value	Severe Hypoxemia OR (95% CI), P Value	Hypercarbia OR (95% CI), P Value
Age	0.94 (0.89 – 0.99), p=0.032	0.95 (0.89 – 1.01), p=0.129	0.87 (0.82 – 0.92), p < 0.001
Male	-	-	-
ASA 3 or 4	-	-	-
Extremes of Weight*	-	-	-
Type_of_Surgery			
1 Intrapulmonary**			
2 Mediastinal	-	-	-
3 Pleurodesis and/or Decortication	-	-	-
4 Other	-	-	-
Right Sided Surgery	2.25 (1.45 – 3.61), p < 0.001	3.01 (1.67 – 5.76), p < 0.001	0.99 (0.59 – 1.67), p = 0.973
Bronchial_Blocker	-	-	-
Video Assisted Thoroscopic Surgery	-	-	1.36(0.77 - 2.46), p = 0.288
Room Air SpO2<98%,	2.78 (1.81 – 4.24), p < 0.001	3.05(1.79 – 5.19), p < 0.001	1.02(0.55 – 1.82), p = 0.928
Low Tidal Volume Ventilation (TV≤6 ml/kg + ≥4cm H2O PEEP)	-	-	-
One-Lung Ventilation Duration (Hours)	1.05 (0.93 – 1.18), P = 0.345	1.01 (0.85 – 1.67), p = 0.864	1.14 (0.98 - 1.29), p = 0.054

The optimal Lambda Value for 4-9 year of age cohort was 0.029, 0.024 and 0.0282 respectively for hypoxemia, significant hypoxemia, and hypercarbia with an Alpha value of 1.

- = Beta coefficient set to 0 by least absolute shrinkage and selection operator.

*Extremes of weight = patient weight >95% or <5% for age according to the Centers for Disease Control and Prevention (Atlanta, Georgia) growth chart.

**Intrapulmonary Surgery used as reference.

LASSO, least absolute shrinkage and selection operator; ASA, American Society of Anesthesiologists Physical Status; SpO₂, oxygen saturation measured by pulse oximetry; TV, Tidal Volume; PEEP, Positive End Expiratory Pressure.