Supplementary Table 1. The constructed prediction equations from the multiple regression analyses.

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| --- | --- |
| Outcome measure | Prediction formula |
| Operation time (hours) | 1/(ABS(0.094-0.010\*stapler type-0.010\*male-0.008\*(18.5<=BMI<24)-0.013\*(28<=BMI<30)-0.004\*residence (regional city)-0.011\*COPD-0.004\*Digestive system diseases-0.012\*Endocrine system diseases -0.007\*squamous cell carcinoma-0.003\*Tumor stage I-0.010\*Abnormal platelet count-0.003\*operation site at upper left lung）^0.5) |
| Post-surgery length of stay (days) | 1/(ABS(0.020-0.003\*Stapler type-0.002\*(18.5<=BMI<24)-0.003\*Emphysema-0.001\*diabetes-0.001\*Cerebrovascular/cerebral nerve disease-0.001\*Urinary system diseases-0.001\*Digestive system diseases-0.001\*Reproductive system diseases-0.002\*Endocrine system diseases+0.000\*Tumor stage I-0.004\*Abnormal platelet count-0.001\*Operation site at upper left lung）^0.5) |
| Extended drainage tube placement duration  | EXP(-3.109-0.050\*stapler type+0.640\*male+1.149\*pulmonary nodules+1.170\*COPD+0.782\*bronchial diseases+0.410\*digestive system diseases+0.919\*endocrine system diseases+0.766\*abnormal erythrocyte count+1.335\*abnormal platelet count)/(1+exp(-3.109-0.050\*stapler type+0.640\*male+1.149\*pulmonary nodules+1.170\*COPD+0.782\*bronchial diseases+0.410\*digestive system diseases+0.919\*endocrine system diseases+0.766\*abnormal erythrocyte count+1.335\*abnormal platelet count)) |
| Intraoperative blood transfusion rate | 37.370-61.683\*Stapler type+94.197\*Urban residence insurance plan+688.954\*Lung infection+391.843\*ENT diseases+57.483\*Squamous cell carcinoma |
| Total blood transfusion volume（ml） | EXP(LN(0.007)+LN(0.629)\*Stapler type+LN(4.059)\*(24<=BMI<28)+LN(2.969)\*Hypertension+LN(1.138)\*Coronary heart disease+LN(5.433)\*vascular diseases+LN(28.512)\*Carcinoid+LN(0.835)\*Tumor stage I+LN(1.136)\*Abnormal red blood cell count+LN(7.011)\*abnormal hemoglobin+LN(5.380)\*abnormal platelet count+LN(1.022)\*Operation site at upper left lung)/(1+EXP(LN(0.007)+LN(0.629)\*Stapler type+LN(4.059)\*(24<=BMI<28)+LN(2.969)\*hypertension+LN(1.138)\*coronary heart disease+LN(5.433)\*vascular diseases+LN(28.512)\*Carcinoid+LN(0.835)\*Tumor stage I+LN(1.136)\*Abnormal red blood cell count+LN(7.011)\*abnormal hemoglobin+LN(5.380)\*abnormal platelet count+LN(1.022)\*Operation site at upper left lung)) |
| Post-surgery air leak rate | EXP(LN(0.320)+LN(0.800)\*Stapler type+LN(1.422)\*male+LN(1.020)\*age+LN(0.515)\*(24<=BMI<28)+LN(1.962)\*Bronchial disease+LN(1.013)\*Tumor stage I+LN(1.756)\*Abnormal red blood cell count+LN(0.366)\*abnormal white blood cell count+LN(0.537)\*operation classification IV+LN(0.662)\*operation site at upper left lung)/(1+EXP(LN(0.320)+LN(0.800)\*Stapler type+LN(1.422)\*male+LN(1.020)\*age+LN(0.515)\*(24<=BMI<28)+LN(1.962)\*Bronchial disease+LN(1.013)\*Tumor stage I+LN(1.756)\*Abnormal red blood cell count+LN(0.366)\*abnormal white blood cell count+LN(0.537)\*operation classification IV+LN(0.662)\*operation site at upper left lung)) |
| Utilized number of staplers | EXP(0.197-0.049\*Stapler type+0.072\*Tumor stage I+0.066\*Operation site at upper left lung) |
| Utilized number of cartridges | EXP(1.815+0.005\*Stapler type+0.131\*male-0.058\*(18.5<=BMI<24)-0.037\*residence in capital city+0.143\*residence out of Hunan+0.068\*Other insurance plan+0.134\*Bullae-0.221\*COPD+0.181\*Thoracic mediastinal disease-0.164\*Cerebrovascular/Cerebral nerve disease-0.175\*Sport system diseases-0.252\*Vascular diseases-0.821\*Tuberculosis/granulomatosis+0.168\*Tumor stage I+0.071\*Abnormal white blood cell count+0.161\*Abnormal platelet count-0.093\*operation classification IV+0.017\*operation site at upper left lung) |