

Table S1 Stratified regression analysis of females and males on perioperative outcomes

Variables	Female		Male	
	OR/beta 95% CI	P value	OR/beta 95% CI	P value
<b>Complications</b>				
Age	1.0158 [1.0037, 1.0282]	0.011	1.0199 [1.0098, 1.0302]	<0.001
BMI	0.9368 [0.8967, 0.9779]	0.003	0.9496 [0.9181, 0.9820]	0.003
FEV1%	1.0022 [0.9948, 1.0097]	0.558	0.9959 [0.9907, 1.0012]	0.128
DLCO%	0.9850 [0.9767, 0.9932]	<0.001	0.9915 [0.9860, 0.9969]	0.002
Neoadjuvant therapy	2.8036 [0.7957, 7.6518]	0.067	1.4611 [0.8162, 2.4901]	0.18
<b>Resection extent</b>				
Lobectomy	Reference	Reference	Reference	Reference
Segmentectomy	0.6311 [0.4551, 0.8649]	0.005	0.5380 [0.3787, 0.7490]	<0.001
Wedge resection	0.5971 [0.2766, 1.1371]	0.148	0.4460 [0.2352, 0.7776]	0.008
Pneumonectomy	0.0000 [NA, 5885542.7016]	0.971	0.4191 [0.1213, 1.1011]	0.113
Tumor size	1.0518 [0.9385, 1.1715]	0.372	1.0530 [0.9866, 1.1224]	0.117
<b>Pleural adhesion</b>				
No				
Moderate	1.1493 [0.8848, 1.4983]	0.3	1.0912 [0.8800, 1.3548]	0.428
Complete	1.3144 [0.8440, 2.0034]	0.214	2.4168 [1.8238, 3.1963]	<0.001
Surgery duration	1.0104 [1.0079, 1.0129]	<0.001	1.0055 [1.0038, 1.0071]	<0.001
Smoking history	0.9266 [0.3181, 2.1385]	0.873	1.0840 [0.8659, 1.3625]	0.485
VATS versus open	0.5466 [0.2193, 1.1655]	0.151	0.5732 [0.3987, 0.8108]	0.002
COPD (yes vs. no)	1.0405 [0.3007, 2.7169]	0.942	1.8095 [1.3086, 2.4799]	<0.001
<b>Postoperative LOS</b>				
Age	0.0047 [0.0036, 0.0059]	<0.001	0.0081 [0.0069, 0.0093]	<0.001
BMI	-0.0052 [-0.0093, -0.0011]	0.013	-0.0064 [-0.0105, -0.0023]	0.002
FEV1%	-0.0005 [-0.0012, 0.0003]	0.215	-0.0010 [-0.0017, -0.0003]	0.003
DLCO%	-0.0015 [-0.0023, -0.0007]	<0.001	-0.0024 [-0.0031, -0.0017]	<0.001
Neoadjuvant therapy	0.1329 [-0.0198, 0.2783]	0.08	0.2072 [0.1367, 0.2763]	<0.001
<b>Resection extent</b>				
Lobectomy	Reference	Reference	Reference	Reference
Segmentectomy	-0.1089 [-0.1382, -0.0796]	<0.001	-0.1699 [-0.2070, -0.1330]	<0.001
Wedge resection	-0.0615 [-0.1166, -0.0071]	0.028	-0.1247 [-0.1842, -0.0661]	<0.001
Pneumonectomy	0.2855 [0.1135, 0.4502]	0.001	0.2310 [0.1391, 0.3207]	<0.001
Tumor size	0.0290 [0.0177, 0.0403]	<0.001	0.0204 [0.0120, 0.0286]	<0.001
<b>Pleural adhesion</b>				
No				
Moderate	0.0256 [0.0007, 0.0505]	0.044	0.0609 [0.0350, 0.0869]	<0.001
Complete	0.0527 [0.0060, 0.0990]	0.026	0.1946 [0.1558, 0.2333]	<0.001
Surgery duration	0.0033 [0.0030, 0.0036]	<0.001	0.0022 [0.0020, 0.0024]	<0.001
Smoking history	-0.1113 [-0.2077, -0.0179]	0.021	0.0046 [-0.0228, 0.0320]	0.744
VATS versus open	0.1729 [0.1048, 0.2400]	<0.001	0.0515 [0.0103, 0.0925]	0.014
COPD (yes vs. no)	0.1119 [0.0066, 0.2140]	0.034	0.1632 [0.1186, 0.2074]	<0.001
<b>Hospitalization cost</b>				
Age	0.0023 [0.0023, 0.0023]	<0.001	0.0038 [0.0038, 0.0038]	<0.001
BMI	-0.0002 [-0.0002, -0.0001]	<0.001	0.0001 [0.0001, 0.0002]	<0.001
FEV1%	-0.0002 [-0.0002, -0.0002]	<0.001	-0.0003 [-0.0003, -0.0003]	<0.001
DLCO%	0.0001 [0.0001, 0.0001]	<0.001	-0.0005 [-0.0005, -0.0005]	<0.001
Neoadjuvant therapy	0.0189 [0.0172, 0.0205]	<0.001	0.0419 [0.0410, 0.0427]	<0.001
<b>Resection extent</b>				
Lobectomy	Reference	Reference	Reference	Reference
Segmentectomy	0.0041 [0.0038, 0.0044]	<0.001	-0.0077 [-0.0081, -0.0073]	<0.001
Wedge resection	-0.1537 [-0.1543, -0.1531]	<0.001	-0.1459 [-0.1465, -0.1452]	<0.001
Pneumonectomy	-0.0536 [-0.0560, -0.0513]	<0.001	-0.0440 [-0.0453, -0.0427]	<0.001
Tumor size	-0.0004 [-0.0006, -0.0003]	<0.001	-0.0000 [-0.0001, 0.0001]	0.461
<b>Pleural adhesion</b>				
No				
Moderate	-0.0015 [-0.0018, -0.0013]	<0.001	-0.0043 [-0.0046, -0.0041]	<0.001
Complete	-0.0331 [-0.0336, -0.0326]	<0.001	0.0151 [0.0146, 0.0155]	<0.001
Surgery duration	0.0019 [0.0019, 0.0019]	<0.001	0.0015 [0.0015, 0.0016]	<0.001
Smoking history	-0.0095 [-0.0105, -0.0086]	<0.001	0.0024 [0.0021, 0.0027]	<0.001
VATS versus open	-0.0376 [-0.0384, -0.0368]	<0.001	-0.0326 [-0.0331, -0.0321]	<0.001
COPD (yes vs. no)	0.0167 [0.0156, 0.0178]	<0.001	0.0458 [0.0452, 0.0463]	<0.001

OR, odds ratio; BMI, body mass index; FEV1%, predicted percentage of forced expiratory volume in 1 second; DLCO%, predicted percentage of diffusing capacity for carbon monoxide; VATS, video assisted thoracoscopic surgery; COPD, chronic obstructive pulmonary disease.

**Table S2** Mediation proportion (95% CI) of indirect effect on total effect of each individual mediator of outcomes

Mediators	Incidence of complications	Postoperative LOS	Hospitalization cost
Age	0.033 (0.018, 0.096)	0.052 (0.018, 0.095)	0.103 (0.043, 0.207)
BMI	0.077 (0.039, 0.162)	0.047 (0.085, 0.020)	-
FEV1%	-	0.064 (0.031, 0.114)	0.057 (0.014, 0.336)
DLCO%	0.188 (0.115, 0.336)	0.220 (0.381, 0.135)	0.108 (0.035, 0.255)
COPD	0.025 (0.008, 0.059)	0.673 (0.010, 1.996)	0.015 (0.001, 0.05)
Pleural adhesion	0.021 (0.002, 0.079)	0.011 (0.000, 0.037)	0.044 (0.001, 0.100)
Surgery duration	0.082 (0.041, 0.178)	0.121 (0.052, 0.200)	0.277 (0.144, 0.432)

LOS, length of hospital stays; BMI, body mass index, FEV1%, predicted forced expiratory volume within 1 second, DLCO%, predicted diffused capacity for carbon monoxide; COPD, chronic obstructive pulmonary disease.