

Table S1 Geographic characteristics of the enrolled patients

Clinical features	Poor compliance ^a (N=237)	Good compliance ^b (N=589)	P value	
			Univariate	Multivariate
Gender				
Male	90 [29]	216 [71]	0.75	0.89
Female	147 [28]	373 [72]		
Age, median [IQR]	59 [50, 66]	59 [49, 66]		
≤60 years	121 [27]	331 [73]	0.142	0.13
>60 years	116 [31]	258 [69]		
Education			0.047	0.058
≥ College	62 [24]	197 [76]		
≤ High school	175 [31]	392 [69]		
Local residents			0.075	0.069
Yes	118 [32]	252 [68]		
No	119 [26]	337 [74]		
Comorbidities			0.687	0.424
Yes	86 [30]	204 [70]		
No	151 [28]	385 [72]		
History of surgery			0.017	0.142
Yes	93 [25]	286 [76]		
No	144 [32]	303 [68]		
History of thoracic surgery			<0.001	0.001
Yes	0	29 [100]		
No	237 [30]	560 [70]		
History of malignant tumor			0.741	0.73
Yes	12 [26]	34 [74]		
No	225 [29]	555 [71]		
Family history of malignant diseases			0.004	0.006
Yes	41 [21]	157 [79]		
No	196 [31]	432 [69]		
Type of surgery			1	0.915
Open thoracotomy	19 [29]	47 [71]		
Thoracoscopic surgery	118 [18]	542 [82]		
Pathology of the lesion			0.004	0.003
Malignant	202 [27]	542 [73]		
Benign	35 [43]	47 [57]		
Postoperative stay			0.527	0.675
>7 days	27 [32]	58 [68]		
≤7 days	210 [28]	531 [72]		

^a, poor compliance was defined as a response to less than 3 of the 5 postoperative surveys; ^b, good compliance was defined as a response to at least 3 postoperative surveys. IQR, interquartile range.

Table S2 Clinical characteristics of patients included for analysis of symptom recovery

Clinical variables	Patient No. [%] ^a N=589
Preoperative FEV1 %	
≥80%	474 [80]
<80%	115 [20]
PS score	
0	510 [87]
1–2	79 [13]
BMI	
≥24	203 [34]
<24	386 [66]
Comorbidities	
Total	207 [35]
Respiratory	35 [6]
Cardiovascular	161 [27]
Surgical history	
Total	295 [50]
Thoracic	29 [5]
Smoking history	
Yes	169 [29]
No	420 [71]
Surgical approach	
Thoracoscopic	542 [92]
Open	47 [8]
Laterality of surgery	
Right	336 [57]
Left	247 [42]
Bilateral	6 [1]
Extent of resection	
Sublobar	283 [48]
Wedge resection	201 [34]
Segmentectomy	82 [14]
Non-sublobar	306 [52]
Lobectomy	285 [48]
Sleeve resection	4 [1]
Bilobectomy	12 [2]
Pneumonectomy	5 [1]
LN removed, median [IQR]	6 [2, 11]
LN stations removed, median [IQR]	4 [2, 6]
Type of LN removal	
Dissection	350 [60]
LN removed, median [IQR]	10 [7, 14]
LN stations removed, median [IQR]	6 [5, 7]
Biopsy	150 [25]
LN removed, median [IQR]	3 [2, 4]
LN stations removed, median [IQR]	2 [2, 3]
No resection	89 [15]
Operative time, median [IQR], minutes	
Surgical time >90 min	263 [45]
Chest tube duration, median [IQR], days	
Drainage >7 days	58 [10]
Postoperative complications	79 [13]
Tumor size, median [IQR], cm	1.2 [0.7, 2.1]
Tumor histology	
Adenocarcinoma	501 [85]
Squamous cell carcinoma	30 [5]
Small cell carcinoma	4 [1]
Other malignant	13 [2]
Metastatic tumor	2 [0.3]
Benign	39 [7]
pStage	
AAH/AIS	113 [19]
IA	344 [58]
IB	38 [6]
IIA	11 [2]
IIB	8 [1]
IIIA	29 [5]
IIIB	5 [1]

^a, data denote No. [%] unless otherwise indicated. FEV1, forced expiratory volume in one second; PS, performance status; BMI, body mass index; LN, lymph nodes; IQR, interquartile range; AAH, atypical adenomatous hyperplasia; AIS, adenocarcinoma in situ.

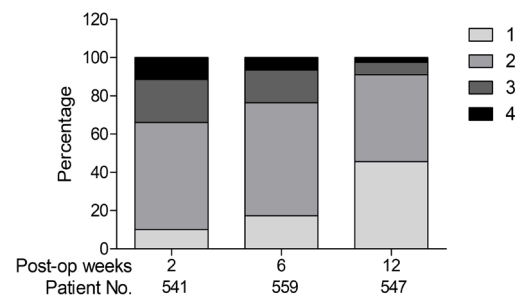


Figure S1 The distribution of patients with varied pain frequency during the study period, with 1 denoting “not present”, 2 denoting “rare, less than 50% of awake time”, 3 denoting “sometimes, more than 50% of awake time”, and 4 denoting “always”.

Table S3 Regression analysis of the factors associated with higher pain severity post-surgery

Clinical variables	P value (univariate)			P value (multivariate)		
	2 weeks	6 weeks	12 weeks	2 weeks	6 weeks	12 weeks
Gender (female)	0.328	0.106	<i>0.011</i>	0.174	<i>0.009</i>	<i><0.001</i>
Age (>60 years)	0.057	<i>0.012</i>	<i>0.001</i>	0.127	<i>0.017</i>	<i>0.003</i>
BMI (≥ 24 kg/m ²)	0.588	0.317	0.927	0.789	0.267	0.752
Surgical approach (thoracotomy)	<i>0.049</i>	<i>0.001</i>	<i><0.001</i>	0.122	<i>0.001</i>	<i>0.002</i>
Side of surgery (left)	0.426	0.051	0.166	0.656	0.776	0.883
Chest tube duration (>7 days)	1	<i>0.032</i>	<i><0.001</i>	0.746	0.104	<i><0.001</i>
PS score (≥ 1)	0.439	0.045	0.101	0.457	0.09	0.446
Comorbidity						
Diabetes	0.652	0.647	0.211	0.516	0.827	0.298
Total	0.529	0.717	0.272	0.656	0.671	0.691
Surgical history						
Thoracic	0.252	0.838	0.687	0.139	0.606	0.697
Total	0.863	1	0.383	0.933	0.632	0.521
Operative time (>90 min)	<i>0.031</i>	<i>0.045</i>	<i>0.001</i>	<i>0.029</i>	0.268	0.079
Postoperative complications	1	0.527	0.043	0.474	0.707	0.102

Italic values indicate significant difference. BMI, body mass index; PS, performance status.

Table S4 Regression analysis of the factors associated with cough severity following lung surgery

Clinical variables	P value (univariate)			P value (multivariate)		
	2 weeks	6 weeks	12 weeks	2 weeks	6 weeks	12 weeks
Gender (female)	<i><0.001</i>	<i>0.007</i>	<i>0.042</i>	<i>0.001</i>	<i>0.001</i>	<i>0.003</i>
Age (>60 years)	0.051	0.664	<i>0.002</i>	<i>0.013</i>	0.17	0.350
BMI (≥ 24 kg/m ²)	0.586	0.786	0.665	0.419	0.471	0.317
Preoperative FEV1% (<80%)	0.092	0.237	0.361	0.224	0.267	0.238
Comorbidity						
Respiratory	1	0.725	0.987	0.424	0.517	0.927
Total	0.367	0.366	0.212	0.731	0.391	0.761
Surgical history						
Thoracic	0.704	0.839	0.229	0.776	0.482	0.942
Total	0.546	0.666	0.421	0.254	0.21	0.473
Smoking history	0.001	0.036	0.217	0.723	0.941	0.885
Side of the surgery (left)	0.137	0.18	0.393	0.776	0.211	0.727
Extent of resection (sublobar)	<i>0.016</i>	<i><0.001</i>	<i><0.001</i>	0.351	<i><0.001</i>	<i>0.016</i>
Lymph node removal (dissection)	<i>0.002</i>	<i><0.001</i>	<i><0.001</i>	<i><0.001</i>	0.289	<i><0.001</i>
Chest tube duration (>7 days)	0.662	0.319	0.190	0.501	0.351	0.973
Operative time (>90 min)	0.487	<i>0.004</i>	<i><0.001</i>	0.85	<i>0.049</i>	<i>0.005</i>
Postoperative complications	0.801	0.45	0.045	0.756	0.231	0.776

Italic values indicate significant difference. BMI, body mass index; FEV1, forced expiratory volume in one second.