

Table S1 Characteristics of the analysed studies

Study ID	Type of research	Patients characteristics	Surgery type	Findings summary
Nagamatsu Y, 2007 (4)	Retrospective analysis of prospectively collected data	18 patients	Lobectomy	The recovery of exercise capacity was 95% 1 year after surgery
Park TY, 2016 (5)	Retrospective study	120 patients with primary lung cancer	60 VATS lobectomy, 60 open lobectomy	There were no significant differences in pulmonary function recovery during the late postoperative period in NSCLC patients receiving VATS versus thoracotomy
Seok Y, 2014 (6)	Prospective	72 patients with primary lung cancer	VATS lobectomy	The postoperative lung function depended on the lobe resected and presence of COPD
Pu Q, 2013 (7)	Prospective	103 patients with primary lung cancer	51 VATS and 52 open lobectomy	FEV ₁ recovery was better in VATS group, but not significantly; VATS lobectomy generates less pain and preserves better the lung function in the early postoperative phase
Luzzi L, 2008 (8)	Retrospective	27 patients with lung cancer	Pneumonectomy	COPD patients with a pneumonectomy may have the smaller postoperative FEV ₁ drop and greater decrease in hyperinflation than non-COPD patients
Fujimoto T, 2002 (9)	Retrospective cohort study	27 patients with lung cancer	Pneumonectomy	Patients with a low body mass index (BMI) (<20 kg/m ²), however, showed a significantly greater degree of lung herniation than those with a high BMI (≥20 kg/m ²)
Oswald NK, 2019 (10)	Meta-analysis of 17 studies	610 patients with lung cancer	Lobectomy, pneumonectomy, segmentectomy	FEV ₁ prediction was the most accurate when CT volume and density measures were combined
Varella G, 2006 (3)	Prospective	161 patients with lung cancer	Lobectomy	in patients with lobectomy, the FEV ₁ measured on the first postoperative day, may be 30% lower than predicted
Fernández-Rodríguez L, 2018 (11)	Retrospective	114 patients with lung cancer	Anatomical lung resections	volumetric CT was more accurate than segment counting or scintigraphy in terms of prediction of FEV ₁ , vital capacity, diffusion capacity and peak oxygen uptake
Tane S, 2019 (12)	Retrospective	148 patients with lung cancer	74 segmentectomies, 74 lobectomies	Segmentectomy preserved the lung function better than lobectomy
Keenan R, 2004 (13)	Retrospective	201 patients with lung cancer	54 segmentectomies, 147 lobectomies	segmental resection offers preservation of pulmonary function compared with lobectomy and does not compromise survival
Nomori H, 2018 (14)	Retrospective cohort study	392 patients with lung cancer	184 segmentectomies, 208 lobectomies	Segmentectomy preserves the lung function better than lobectomy; it also improves the function of non-operated lobe
Saito H, 2014 (15)	Retrospective	178 patients with lung cancer	52 segmentectomies, 162 lobectomies	Pulmonary function at 6 months after surgery is better after segmental resection than after lobectomy
Suzuki H, 2017 (16)	Retrospective	70 patients with lung cancer	37 segmentectomies, 33 lobectomies	No functional advantage for segmentectomy was observed during long-term follow-up
Ercegovic M, 2014 (17)	Prospective cohort study	60 patients with lung cancer	5 sublobar resections, 41 lobectomies, 14 pneumonectomies	Extent of the lung resection and postoperative complications do not significantly influence the trend of the lung function recovery after lung resection for lung cancer
Ugalde P, 2008 (18)	Retrospective	88 patients with lung cancer	Pneumonectomy	Phrenic nerve preservation during pneumonectomy is of significant functional benefit postoperatively
Kushibe K, 2009 (19)	Retrospective	186 patients with lung cancer	Lobectomy	The time necessary for the air leak to stop was shorter after lower and middle- compared to upper lobectomy
Sekine Y, 2003 (20)	Retrospective	521 patients with lung cancer	Lobectomy	In patients with COPD who had lower or middle-lobe lobectomies was better preserved than predicted
Baldi S, 2005 (21)	Retrospective	137 patients with lung cancer	Lobectomy	Patients with mild to severe chronic obstructive pulmonary disease could have a better late preservation of pulmonary function after lobectomy than healthy patients
Edwards JG, 2001 (22)	Retrospective	29 patients with lung cancer	Lobectomy	Effect of lobar volume reduction allows for an extension of the selection criteria
Subotic D, 2013 (23)	Prospective plot-study	27 patients with lung cancer	Lobectomy and pneumonectomy	The preoperative diaphragm motion influences the postoperative lung function prediction

NSCLC, non-small-cell lung cancer; VATS, video-assisted thoracic surgery; COPD, chronic obstructive pulmonary disease; FEV₁, forced expiratory volume in the first second.