

581 **Supplementary Table 1.** Patient characteristics by units of RBCs transfused

Variable	Number of RBC units transfused			
	0 or 1 unit	2 units	3 to 7 units	≥ 8 units
N	4549	149	117	32
Age (years)	68.0 (61.0-75.0)	67.0 (59.0-73.0)	69.0 (60.0-76.0)	72.0 (65.5-78.0)
Male	1948 (42.8)	53 (35.6)	66 (56.4)	22 (68.8)
Pack-years	32.0 (10.0-54.0)	40.0 (20.0-60.0)	40.0 (22.0-60.0)	47.5 (25.0-73.9)
Smoking status				
Never	733 (16.1)	17 (11.4)	9 (7.7)	3 (9.4)
Former	3186 (70.0)	98 (65.8)	93 (79.5)	24 (75.0)
Current	630 (13.8)	34 (22.8)	15 (12.8)	5 (15.6)
Comorbidities				
Pulmonary	1348 (29.6)	42 (28.2)	43 (36.8)	12 (37.5)
Cardiac	2460 (54.1)	84 (56.4)	70 (59.8)	17 (53.1)
Endocrine	557 (12.2)	15 (10.1)	16 (13.7)	7 (21.9)

Renal	91 (2.0)	3 (2.0)	6 (5.1)	5 (15.6)
Preop-Hemoglobin (g/dL)	13.1 (12.1-14.0)	11.0 (10.1-12.4)	12.1 (10.6-13.2)	12.1 (10.9-13.3)
SUV _{max}	6.0 (2.8-11.0)	10.4 (5.3-15.6)	10.0 (5.0-14.2)	11.5 (8.0-15.8)
FEV1 (% predicted)	89.7 (77.0-102.0)	84.0 (73.0-95.0)	88.0 (73.0-98.0)	79.0 (70.0-88.5)
DLCO (% predicted)	80.0 (66.0-94.0)	70.0 (57.0-80.0)	72.0 (58.0-83.0)	63.0 (52.0-75.0)
Neoadjuvant chemotherapy	805 (17.7)	66 (44.3)	51 (43.6)	12 (37.5)
Neoadjuvant radiation	107 (2.4)	12 (8.1)	17 (14.5)	6 (18.8)
ASA classification				
1	12 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
2	1232 (27.2)	32 (21.6)	19 (16.4)	6 (18.8)
3	3140 (69.3)	154 (78.6)	87 (75.0)	25 (78.1)
4	150 (3.3)	3 (2.0)	10 (8.6)	1 (3.1)
Operation type				
Lobectomy	3834 (84.3)	112 (75.2)	93 (79.5)	27 (84.4)
Bilobectomy	132 (2.9)	8 (5.4)	3 (2.6)	2 (6.2)

Pneumonectomy	177 (3.9)	23 (15.4)	16 (13.7)	2 (6.2)
Segmentectomy	406 (8.9)	6 (4.0)	5 (4.3)	1 (3.1)
VATS	1574 (34.6)	16 (10.7)	13 (11.1)	3 (9.4)
Robot-assisted	469 (10.3)	4 (2.7)	4 (3.4)	3 (9.4)
Intrapericardial resection	70 (1.5)	8 (5.4)	5 (4.3)	1 (3.1)
Chest wall resection	96 (2.1)	24 (16.1)	20 (17.1)	9 (28.1)
Vascular resection	29 (0.6)	4 (2.7)	0 (0.0)	4 (12.5)
Pathologic stage				
IA	1975 (43.4)	32 (21.5)	34 (29.1)	5 (15.6)
IB	899 (19.8)	16 (10.7)	18 (15.4)	8 (25.0)
IIA	610 (13.4)	24 (16.1)	13 (11.1)	2 (6.2)
IIB	312 (6.9)	33 (22.1)	30 (25.6)	8 (25.0)
IIIA	753 (16.6)	44 (29.5)	22 (18.8)	9 (28.1)
Pathologic subtype				
Adenocarcinoma	3385 (74.4)	90 (60.4)	66 (56.4)	14 (43.8)

Adenosquamous	73 (1.6)	5 (3.4)	0 (0.0)	2 (6.2)
Invasive mucinous adenocarcinoma	45 (1.0)	2 (1.3)	3 (2.6)	0 (0.0)
Large cell carcinoma	141 (3.1)	5 (3.4)	10 (8.5)	2 (6.2)
Squamous cell carcinoma	806 (17.7)	39 (26.2)	35 (29.9)	11 (34.4)
Other NSCLC histologic subtype	99 (2.2)	8 (5.4)	3 (2.6)	3 (2.6)

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583 Data are no. (%) or median (interquartile range). ASA, American Society of Anesthesiologists physical status classification; CI,
584 confidence interval; DLCO, lung diffusion capacity of carbon monoxide; FEV1, forced expiratory volume in 1 second; HR, hazard
585 ratio; NSCLC, non–small cell lung cancer; SUV_{max} , maximum standardized uptake value; VATS, video-assisted thoracoscopic
586 surgery.

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588 **Supplementary Table 2.** Multivariable Cox regression model for overall survival in dose-response analysis

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Variable	HR	95% CI	P
RBCs transfused			
0 or 1 units	Reference		
2 units	1.55	(1.26-1.91)	<0.001
3 to 7 units	2.02	(1.61-2.53)	<0.001
≥ 8 units	4.29	(2.91-6.33)	<0.001
Age (years)	1.03	(1.03-1.04)	<0.001
Pack-years	1.00	(1.00-1.00)	0.001
Male	1.21	(1.10-1.32)	<0.001
Comorbidities			
Pulmonary	1.06	(0.96-1.16)	0.270
Cardiac	1.07	(0.98-1.18)	0.132
Endocrine	1.05	(0.93-1.19)	0.434

Renal	1.23	(0.95-1.60)	0.119
Preoperative hemoglobin (g/dL)	1.00	(0.97-1.03)	0.995
SUV _{max}	1.00	(0.99-1.01)	0.969
FEV1 (% predicted)	1.00	(1.00-1.00)	0.242
DLCO (% predicted)	0.99	(0.99-0.99)	<0.001
Neoadjuvant chemotherapy	1.15	(1.02-1.30)	0.026
Neoadjuvant radiation	1.93	(1.51-2.46)	<0.001
ASA Classification			
1	Reference		
2	1.14	(0.37-3.57)	0.818
3	1.39	(0.44-4.35)	0.570
4	1.50	(0.47-4.81)	0.498
VATS	0.72	(0.64-0.81)	<0.001
Chest wall resection	0.79	(0.61-1.02)	0.071
Pathologic stage			

IA	Reference		
IB	1.40	(1.23-1.58)	<0.001
IIA	1.89	(1.66-2.17)	<0.001
IIB	1.86	(1.56-2.21)	<0.001
IIIA	3.13	(2.77-3.54)	<0.001
Pathological subtype			
Adenocarcinoma	Reference		
Adenosquamous	1.28	(0.97-1.70)	0.086
Invasive mucinous adenocarcinoma	0.77	(0.51-1.17)	0.219
Large cell carcinoma	1.17	(0.94-1.46)	0.167
Squamous cell carcinoma	1.04	(0.93-1.16)	0.522
Other NSCLC histologic subtype	1.66	(1.30-2.11)	<0.001

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591 ASA, American Society of Anesthesiologists physical status classification; CI, confidence interval; DLCO, lung diffusion capacity of

592 carbon monoxide; FEV1, forced expiratory volume in 1 second; HR, hazard ratio; NSCLC, non-small cell lung cancer; SUV_{max} ,

593 maximum standardized uptake value; VATS, video-assisted thoracoscopic surgery.

594 **Supplementary Table 3.** Multivariable Cox regression model for disease-free survival in dose-response analysis

Variable	HR	95% CI	P
RBC transfusions			
0 or 1 units	Reference		
2-units	1.44	(1.19-1.76)	<0.0001
3 to 7 units	1.85	(1.49-2.30)	<0.0001
≥8 units	3.57	(2.45-5.21)	<0.0001
Age (years)	1.02	(1.02-1.03)	<0.0001
Pack-years	1.00	(1.00-1.00)	0.098
Male	1.16	(1.06-1.26)	0.001
Comorbidities			
Pulmonary	0.98	(0.90-1.07)	0.673
Cardiac	0.99	(0.91-1.07)	0.745
Endocrine	1.02	(0.90-1.15)	0.777
Renal	1.15	(0.90-1.47)	0.262

Preoperative hemoglobin (g/dL)	1.00	(0.98-1.03)	0.814
SUV _{max}	1.00	(1.00-1.01)	0.200
FEV1 (% predicted)	1.00	(0.99-1.00)	0.022
DLCO (% predicted)	0.99	(0.99-1.00)	<0.0001
Neoadjuvant chemotherapy	1.24	(1.11-1.39)	<0.0001
Neoadjuvant radiation	1.75	(1.39-2.20)	<0.0001
ASA Classification			
1	Reference		
2	1.20	(0.45-3.22)	0.719
3	1.49	(0.56-4.01)	0.427
4	1.72	(0.62-4.72)	0.296
VATS	0.76	(0.68-0.84)	<0.0001
Chest wall resection	0.68	(0.53-0.87)	0.002
Pathologic stage			
IA	Reference		

IB	1.48	(1.32-1.67)	<0.0001
IIA	2.07	(1.82-2.34)	<0.0001
IIB	2.14	(1.82-2.52)	<0.0001
IIIA	3.46	(3.09-3.89)	<0.0001
Pathological subtype			
Adenocarcinoma	Reference		
Adenosquamous	1.16	(0.89-1.52)	0.277
Invasive mucinous adenocarcinoma	0.85	(0.57-1.25)	0.405
Large cell carcinoma	1.09	(0.88-1.35)	0.424
Squamous cell carcinoma	0.93	(0.84-1.03)	0.180
Other NSCLC histologic subtype	1.38	(1.09-1.75)	<0.0001

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596 ASA, American Society of Anesthesiologists physical status classification; CI, confidence interval; DLCO, lung diffusion capacity of

597 carbon monoxide; FEV1, forced expiratory volume in 1 second; HR, hazard ratio; NSCLC, non–small cell lung cancer; SUV_{max} ,

598 maximum standardized uptake value; VATS, video-assisted thoracoscopic surgery.

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600 **Supplementary Table 4.** Multivariable cause-specific Cox regression model for recurrence in dose-response analysis

Variable	HR	95% CI	P
RBC transfusions			
0 or 1 units	Reference		
2 units	1.35	(1.04-1.75)	0.023
3 to 7 units	1.50	(1.09-2.07)	0.013
≥8 units	1.58	(0.80-3.10)	0.187
Age (years)	1.00	(1.00-1.01)	0.284
Pack-years	1.00	(1.00-1.00)	0.161
Male	1.15	(1.03-1.29)	0.015
Preoperative hemoglobin (g/dL)	0.99	(0.95-1.03)	0.653
SUV _{max}	1.01	(1.00-1.02)	0.003
Neoadjuvant chemotherapy	1.55	(1.34-1.78)	0.000
Neoadjuvant radiation	1.30	(0.97-1.74)	0.074
Chest wall resection	0.63	(0.45-0.88)	0.007

Pathologic stage				
IA	Reference			
IB	2.06	(1.73-2.45)	0.000	
IIA	3.55	(2.99-4.22)	0.000	
IIB	3.70	(2.98-4.60)	0.000	
IIIA	5.41	(4.61-6.36)	0.000	
Pathological subtype				
Adenocarcinoma	Reference			
Adenosquamous	1.25	(0.87-1.79)	0.221	
Invasive mucinous adenocarcinoma	1.14	(0.64-2.02)	0.659	
Large cell carcinoma	1.02	(0.78-1.35)	0.875	
Squamous cell carcinoma	0.72	(0.62-0.84)	0.000	
Other NSCLC histologic subtype	1.22	(0.90-1.66)	0.197	

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602 CI, confidence interval; HR, hazard ratio; NSCLC, non-small cell lung cancer; SUV_{max} , maximum standardized uptake value.