

Table e1**Comparison of Follow-up Pulmonary Function Test Scored Using CTCAE version 3.0 and Scored Using the RTOG SBRT Pulmonary Toxicity Scale****Percent (%) of Patients Experiencing Each Grade of Pulmonary Toxicity Following SBRT is Shown**

		FEV1 (% Predicted) - SBRT Pulmonary Toxicity Scale				
		Grade 0	Grade 1	Grade 2	Grade 3	Total
FEV1 (% Predicted) – CTCAE version 3.0 Grade		(n=16)	(n=21)	(n=11)	(n=1)	(n=49)
Grade 0	(n=3)	4.1%	2.0%	0.0%	0.0%	6.1%
Grade 1	(n=7)	6.1%	8.2%	0.0%	0.0%	14.3%
Grade 2	(n=11)	8.2%	8.2%	6.1%	0.0%	22.5%
Grade 3	(n=21)	10.2%	18.4%	12.2%	2.0%	42.9%
Grade 4	(n=7)	4.1%	6.1%	4.1%	0.0%	14.3%
Total	(n=49)	32.7%	42.9%	22.4%	2.0%	
		DLCO (% Predicted) - SBRT Pulmonary Toxicity Scale				
		Grade 0	Grade 1	Grade 2	Grade 3	Total
DLCO (% Predicted) – CTCAE version 3.0 Grade		(n=8)	(n=11)	(n=18)	(n=0)	(n=37)
Grade 0	(n=3)	2.7%	5.4%	0.0%		8.1%
Grade 1	(n=1)	0.0%	2.7%	0.0%		2.7%
Grade 2	(n=10)	10.8%	8.1%	8.1%		27.0%
Grade 3	(n=19)	8.1%	8.1%	35.1%		51.4%
Grade 4	(n=4)	0.0%	5.4%	5.4%		10.8%
Total	(n=37)	21.6%	29.7%	48.6%		
		FVC (% Predicted) - SBRT Pulmonary Toxicity Scale				
		Grade 0	Grade 1	Grade 2	Grade 3	Total
FVC (% Predicted) – CTCAE version 3.0 Grade		(n=20)	(n=20)	(n=9)	(n=0)	(n=49)
Grade 0	(n=10)	14.3%	4.1%	2.0%		20.4%
Grade 1	(n=11)	8.2%	10.2%	4.1%		22.4%
Grade 2	(n=22)	16.3%	18.4%	10.2%		44.9%
Grade 3	(n=6)	2.0%	8.2%	2.0%		12.2%
Total	(n=49)	40.8%	40.8%	18.4%		

Table e2
Categorized Change in Pulmonary Function Following SBRT
A Decline in Pulmonary Function is Defined as a Decrease in Functioning Since Baseline
of At Least 15%

Pulmonary Function Test	Week 6 Post-SBRT (n=41)	Month 3 Post-SBRT (n=27)	Year 2 Post-SBRT (n=24)
FVC (% Predicted)	(n=37)	(n=23)	(n=20)
No decline	81.1%	87.0%	85.0%
Decline	18.9%	13.0%	15.0%
FEV1 (% Predicted)	(n=37)	(n=23)	(n=20)
No decline	81.1%	73.9%	75.0%
Decline	18.9%	26.1%	25.0%
FEV1 / FVC (% Predicted)	(n=37)	(n=23)	(n=20)
No decline	78.4%	73.9%	70.0%
Decline	21.6%	26.1%	30.0%
RV (% Predicted)	(n=25)	(n=12)	(n=8)
No decline	72.0%	100.0%	87.5%
Decline	28.0%	0.0%	12.5%
TLC (% Predicted)	(n=25)	(n=12)	(n=8)
No decline	80.0%	91.7%	87.5%
Decline	20.0%	8.3%	12.5%
DLCO (% Predicted)	(n=29)	(n=17)	(n=13)
No decline	72.4%	58.8%	100.0%
Decline	27.6%	41.2%	0.0%
PaCO2	(n=25)	(n=14)	(n=7)
No decline	96.0%	85.7%	100.0%
Decline	4.0%	14.3%	0.0%
PaO2	(n=25)	(n=14)	(n=7)
No decline	96.0%	85.7%	100.0%
Decline	4.0%	14.3%	0.0%
SaO2	(n=24)	(n=12)	(n=8)
No decline	100.0%	100.0%	100.0%

Table e3
Treatment-Related Pulmonary Toxicity
(n=55)

Category	Grade				
Term	1	2	3	4	5
PULMONARY/UPPER RESPIRATORY	11	13	8	1	0
Atelectasis	1	2	0	0	0
Cough	10	3	2	0	0
Dyspnea	6	9	2	0	0
Forced expiratory volume	4	0	2	0	0
Hypoxia	0	1	2	0	0
Laryngeal edema	0	2	0	0	0
Pleural effusion	4	1	0	0	0
Pneumonitis NOS	4	3	2	0	0
Pulmonary fibrosis	1	1	0	0	0
Pulmonary function test NOS decreased	0	0	3	1	0
Pulmonary/upper respiratory - Other	1	5	1	0	0
Tracheal stenosis	0	1	0	0	0

Includes adverse events where relationship to protocol treatment is missing.
 Adverse events were graded with CTCAE version 3.0.

Table e4
Logistic Regression Models
Toxicities: Pleural Effusion, Pneumonitis
Baseline Pulmonary Function Tests

Pulmonary Function Test	Any Pleural Effusion Toxicity			Any Pneumonitis Toxicity		
	Events/ Total	OR (95% CI)	p-value	Events/ Total	OR (95% CI)	p-value
FVC (Actual)	5 / 51	0.90 (0.23, 3.53)	0.8835	8 / 51	1.38 (0.49, 3.91)	0.5469
FVC (% Predicted)	5 / 51	1.01 (0.98, 1.05)	0.4694	8 / 51	1.00 (0.97, 1.04)	0.9115
FEV1 (Actual)	5 / 51	1.27 (0.32, 5.04)	0.7366	8 / 51	1.92 (0.64, 5.75)	0.2496
FEV1 (% Predicted)	5 / 51	1.01 (0.99, 1.03)	0.4108	8 / 51	1.01 (0.98, 1.03)	0.5907
FEV1 / FVC (Actual)	5 / 51	NA - unstable	--	8 / 51	NA - unstable	--
FEV1 / FVC (% Pred.)	5 / 51	NA - unstable	--	8 / 51	NA - unstable	--
RV (Actual)	5 / 39	0.31 (0.09, 1.08)	0.0358	6 / 39	0.60 (0.24, 1.53)	0.2699
RV (% Predicted)	5 / 39	0.98 (0.95, 1.01)	0.0754	6 / 39	1.00 (0.99, 1.02)	0.8533
TLC (Actual)	5 / 39	0.67 (0.30, 1.50)	0.3056	6 / 39	1.06 (0.57, 2.00)	0.8493
TLC (% Predicted)	5 / 39	0.99 (0.94, 1.04)	0.6240	6 / 39	0.99 (0.95, 1.04)	0.8020
DLCO (Actual)	4 / 42	0.73 (0.50, 1.07)	0.0680	6 / 42	0.96 (0.75, 1.23)	0.7638
DLCO (% Predicted)	4 / 42	1.00 (0.96, 1.03)	0.7968	6 / 42	0.99 (0.95, 1.02)	0.4491
PaCO2	4 / 37	0.93 (0.78, 1.11)	0.4072	3 / 37	0.93 (0.76, 1.14)	0.4796
PaO2	4 / 37	1.02 (0.95, 1.10)	0.6263	3 / 37	0.96 (0.88, 1.06)	0.4452
SaO2	4 / 33	1.00 (0.78, 1.27)	0.9958	3 / 33	0.97 (0.75, 1.26)	0.8382

Table e5
Logistic Regression Models
Toxicity Occurring 6 Weeks after SBRT:
Any Pulmonary/Upper Respiratory Toxicity
6 Week Post-SBRT Pulmonary Function Tests

Pulmonary Function Test	Any Pulmonary Toxicity			Any Pneumonitis Toxicity		
	Events/ Total	OR (95% CI)	p-value	Events/ Total	OR (95% CI)	p-value
FVC (Actual)	8 / 40	1.10 (0.43, 2.82)	0.8434	3 / 40	0.34 (0.05, 2.22)	0.2134
FVC (% Predicted)	8 / 40	0.99 (0.96, 1.02)	0.4980	3 / 40	0.95 (0.89, 1.02)	0.1276
FEV1 (Actual)	8 / 40	1.13 (0.28, 4.61)	0.8615	3 / 40	0.06 (0.00, 2.61)	0.0707
FEV1 (% Predicted)	8 / 40	0.99 (0.96, 1.02)	0.5212	3 / 40	0.94 (0.87, 1.02)	0.0668
FEV1 / FVC (Actual)	8 / 40	NA - unstable	--	3 / 40	NA - unstable	--
FEV1 / FVC (% Pred.)	8 / 40	NA - unstable	--	3 / 40	0.01 (0.00, 9.07)	0.1645
RV (Actual)	6 / 34	1.29 (0.71, 2.32)	0.4127	2 / 34	2.13 (0.92, 4.91)	0.0615
RV (% Predicted)	6 / 34	1.00 (0.99, 1.02)	0.5339	2 / 34	1.04 (0.99, 1.09)	0.0058
TLC (Actual)	6 / 34	1.39 (0.84, 2.30)	0.2001	2 / 34	1.67 (0.83, 3.36)	0.1584
TLC (% Predicted)	6 / 34	1.00 (0.95, 1.04)	0.8680	2 / 34	1.03 (0.96, 1.11)	0.3336
DLCO (Actual)	7 / 38	1.07 (0.87, 1.30)	0.5361	2 / 38	0.80 (0.50, 1.29)	0.3094
DLCO (% Predicted)	7 / 38	0.99 (0.95, 1.03)	0.5829	2 / 38	0.94 (0.84, 1.05)	0.1847
PaCO2	7 / 33	0.97 (0.85, 1.10)	0.6136	1 / 33	1.07 (0.87, 1.31)	0.5544
PaO2	7 / 33	0.99 (0.94, 1.06)	0.8369	1 / 33	1.00 (0.87, 1.15)	0.9977
SaO2	6 / 31	0.96 (0.77, 1.20)	0.7279	1 / 31	1.11 (0.61, 2.00)	0.7233