

1 Supplementary tables

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	Univariate logistic regression					Multivariate logistic regression				
	Relative risk	Std. Err	95% CI.		p-Value	Relative risk	Std. Err	95% CI.		p-Value
Ventilator treatment due to COVID-19										
Median FLUS score	2.84	0.75	1.69	4.77	<0.001	2.44	0.77	1.31	4.52	<0.001
Age	1.00	0.01	0.97	1.03	0.96	1.00	0.02	0.97	1.03	0.99
Sex, Man	1.38	0.67	0.54	3.55	0.50	1.05	0.50	0.41	2.66	0.92
Oxygen administration	3.63	1.79	1.38	9.54	0.01	1.75	0.95	0.60	5.10	0.31
Relevant comorbidity	All had comorbidity, omitted from analysis									
Admission to intensive care due to COVID-19										
Median FLUS score	2.85	0.73	1.73	4.71	<0.001	2.55	0.77	1.42	4.60	<0.001
Age	2.85	0.73	2.85	0.73	0.67	1.00	0.01	0.97	1.03	0.93
Sex, Man	1.60	0.74	0.64	3.95	0.31	1.27	0.58	0.52	3.11	0.60
Oxygen administration	2.64	1.21	1.07	6.50	0.03	1.30	0.64	0.50	3.43	0.59
Relevant comorbidity	All had comorbidity, omitted from analysis									
High-flow oxygen treatment										
Median FLUS score	2.06	0.27	1.59	2.66	<0.001	1.53	0.24	1.13	2.07	0.01
Age	1.01	0.01	0.99	1.03	0.24	1.01	0.01	1.00	1.03	0.15
Sex, Man	1.64	0.43	0.98	2.74	0.06	1.24	0.30	0.77	1.98	0.38
Oxygen administration	4.76	1.57	2.50	9.07	<0.001	3.49	1.21	1.76	6.90	<0.001
Relevant comorbidity	All had comorbidity, omitted from analysis									
30-day mortality due to COVID-19										
Median FLUS score	1.77	0.37	1.17	2.67	0.01	1.14	0.29	0.69	1.88	0.60

Age	1.07	0.02	1.04	1.11	<0.001	1.08	0.02	1.04	1.11	<0.001
Sex, Man	1.96	0.76	0.91	4.21	0.09	2.69	1.06	1.24	5.83	0.01
Oxygen administration	3.00	1.14	1.42	6.32	<0.001	2.71	1.10	1.22	6.02	0.01
Relevant comorbidity	3.75	3.77	0.52	26.93	0.19	0.80	0.80	0.11	5.68	0.83
30-day all-cause mortality										
Median FLUS score	1.51	0.24	1.10	2.06	0.01	0.96	0.22	0.61	1.51	0.85
Age	1.06	0.01	1.04	1.08	<0.001	1.07	0.02	1.04	1.10	<0.001
Sex, Man	1.18	0.33	0.69	2.03	0.54	2.33	0.79	1.20	4.55	0.01
Oxygen administration	1.82	0.59	0.97	3.43	0.06	1.97	0.67	1.01	3.85	0.05
Relevant comorbidity	2.02	1.16	0.65	6.25	0.22	0.74	0.50	0.20	2.75	0.65

4 Supplementary e-table 1: Uni- and multivariate logistic regression of pre-analytic selected variables and
5 their relative risk for 30-days mortality due to COVID-19, 30-days all-cause mortality, intensive care
6 admission, ventilator treatment, high-flow oxygen treatment and non-high-flow oxygen administration.

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FLUS score = 3 in any of the scanning zones					
Ventilator treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score =3	5.42	2.67	2.06	14.25	0.00
Multivariate logistic regression					
FLUS score =3	3.54	1.84	1.27	9.83	0.02
Age	1.00	0.02	0.97	1.03	0.92
Sex, Man	1.11	0.52	0.45	2.79	0.82
Oxygen administration	2.33	1.21	0.84	6.45	0.10
Relevant comorbidity	All had comorbidity				
Admission to intensive care					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score =3	5.60	2.68	2.19	14.30	0.00
Multivariate logistic regression					
FLUS score =3	3.86	1.92	1.46	10.21	0.01
Age	1.00	0.02	0.97	1.03	0.94
Sex, Man	1.39	0.62	0.58	3.35	0.47
Oxygen administration	1.74	0.82	0.69	4.39	0.24
Relevant comorbidity	All had comorbidity				
High-flow oxygen treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score =3	2.75	0.69	1.68	4.48	0.00
Multivariate logistic regression					
FLUS score =3	1.62	0.39	1.01	2.59	0.05
Age	1.01	0.01	1.00	1.03	0.10
Sex, Man	1.33	0.32	0.83	2.12	0.24
Oxygen administration	4.20	1.41	2.17	8.11	0.00
Relevant comorbidity	All had comorbidity				
30-day mortality due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score =3	2.65	0.95	1.31	5.35	0.01
Multivariate logistic regression					
FLUS score =3	1.87	0.65	0.94	3.70	0.07
Age	1.08	0.02	1.05	1.12	0.00
Sex, Man	2.91	1.14	1.34	6.29	0.01
Oxygen administration	2.59	1.00	1.21	5.53	0.01
Relevant comorbidity	0.73	0.73	0.10	5.19	0.75

30-day all-cause mortality					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score =3	2.04	0.56	1.19	3.48	0.01
Multivariate logistic regression					
FLUS score =3	1.65	0.53	0.88	3.11	0.12
Age	1.07	0.02	1.04	1.10	0.00
Sex, Man	2.35	0.80	1.21	4.56	0.01
Oxygen administration	1.73	0.57	0.91	3.29	0.09
Relevant comorbidity	0.67	0.46	0.18	2.54	0.56

8 Supplementary e-table 2: Relative risk from uni- and multivariate binary regression analysis of FLUS score >
9 3 in any of the scanning zones.

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11

Count of FLUS zones scoring 3					
Ventilator treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.37	0.11	1.18	1.59	0.00
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.00	0.02	0.97	1.04	0.77
Age	0.98	0.46	0.39	2.47	0.96
Sex, Man	2.75	1.33	1.06	7.11	0.04
Oxygen administration	1.37	0.11	1.18	1.59	0.00
Relevant comorbidity					
Admission to intensive care					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.48	0.05	1.40	1.58	0.00
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.46	0.10	1.29	1.66	0.00
Age	1.00	0.02	0.98	1.03	0.77
Sex, Man	1.14	0.46	0.52	2.50	0.75
Oxygen administration	1.76	0.72	0.79	3.92	0.17
Relevant comorbidity					
High-flow oxygen treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.45	0.14	1.21	1.75	0.00
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.62	0.39	1.01	2.59	0.05
Age	1.01	0.01	1.00	1.03	0.10
Sex, Man	1.33	0.32	0.83	2.12	0.24
Oxygen administration	4.20	1.41	2.17	8.11	0.00
Relevant comorbidity	All had comorbidity				
30-day mortality due to COVID-19					
	Odds Ratio	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by	1.16	0.11	0.97	1.39	0.109

number of zones					
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.10	0.11	0.9	135	0.353
Age	1.08	0.02	1.04	1.12	0
Sex, Man	2.75	1.08	1.27	5.95	0.01
Oxygen administration	2.75	1.05	1.3	5.83	0.008
Relevant comorbidity	0.79	0.79	0.11	5.61	0.82
30-day all-cause mortality					
	Relativ Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.13	0.08	0.98	1.3	0.097
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.08	0.11	0.89	1.31	0.45
Age	1.07	0.02	1.03	1.09	<0.001
Sex, Man	2.29	0.78	1.78	4.46	0.015
Oxygen administration	1.89	0.6	0.97	3.44	0.06
Relevant comorbidity	0.71	0.48	0.19	2.68	0.62

12 Supplementary e-table 3: Relative for outcomes using a FLUS scoring system counting number of zones
13 with a score on three.

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Count of FLUS zones scoring 2					
Ventilator treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.31	0.09	1.14	1.5	<0.001
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.37	0.11	1.18	1.61	<0.001
Age	0.99	0.02	0.97	1.02	0.496
Sex, Man	1.31	0.60	0.53	3.23	0.553
Oxygen administration	2.97	1.40	1.18	7.05	0.02
Relevant comorbidity	All had comorbidity				
Admission to intensive care					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.3	0.08	1.14	1.47	<0.001
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.39	0.08	1.22	1.56	<0.001
Age	0.99	0.01	0.96	1.01	0.324
Sex, Man	1.55	0.68	0.65	3.66	0.313
Oxygen administration	2.29	0.99	0.97	5.38	0.057
Relevant comorbidity	All had comorbidity				
High-flow oxygen treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.31	0.07	1.17	1.47	<0.001
Multivariate logistic regression					
FLUS score, RR increase by number of zones	1.59	0.07	1.02	1.31	0.01
Age	1.01	0.01	0.99	1.03	0.23
Sex, Man	1.27	0.29	0.8	2.02	0.302
Oxygen administration	4.01	1.36	2.07	7.8	<0.001
Relevant comorbidity	All had comorbidity				
30-day mortality due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by	1.15	0.08	0.99	1.32	0.06

number of zones					
Multivariate logistic regression					
FLUS score, RR increase by number of zones	0.99	0.09	0.82	1.18	0.88
Age	1.08	0.02	1.04	1.11	<0.001
Sex, Man	2.84	1.12	1.31	6.16	0.008
Oxygen administration	3	1.13	1.43	6.29	0.004
Relevant comorbidity	0.8	0.8	0.11	5.72	0.825
30-day all-cause mortality					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score, RR increase by number of zones	1.10	0.06	0.98	1.24	0.099
Multivariate logistic regression					
FLUS score, RR increase by number of zones	0.94	0.07	0.79	1.11	0.46
Age	1.07	0.02	1.04	1.10	<0.001
Sex, Man	2.38	0.8	1.22	4.61	0.011
Oxygen administration	2.02	0.64	1.08	3.77	0.028
Relevant comorbidity	0.67	0.44	0.19	2.45	0.548

15 Supplementary e-table 4: Relative risk of a FLUS scoring system counting number of zones with a score on
16 3.

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FLUS total sum of all zones					
Ventilator treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.13	0.02	1.09	1.17	<0.001
FLUS score	1.12	0.03	1.07	1.19	<0.001
Age	1	0.02	0.97	1.03	0.97
Sex, Man	0.91	0.41	0.38	2.19	0.83
Oxygen administration	2.52	1.18	1.01	6.29	0.05
Relevant comorbidity	All had comorbidity				
Admission to intensive care					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.13	0.01	1.11	1.16	<0.001
Multivariate logistic regression					
FLUS score	1.14	0.02	1.10	1.19	<0.001
Age	0.99	0.01	0.97	1.03	0.97
Sex, Man	1.18	0.44	0.57	2.46	0.65
Oxygen administration	1.89	0.8	0.83	4.31	0.13
Relevant comorbidity	All had comorbidity				
High-flow oxygen treatment due to COVID-19					
	Relativ Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.09	0.02	1.05	1.13	<0.001
Multivariate logistic regression					
FLUS score	1.05	0.02	1.02	1.1	0.006
Age	1.01	0.01	0.99	1.03	0.19
Sex, Man	1.18	0.29	0.73	1.9	0.5
Oxygen administration	3.74	1.28	1.91	7.31	<0.001
Relevant comorbidity	All had comorbidity				
30-day mortality due to COVID-19					
	Odds Ratio	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.05	0.02	1	1.1	0.03
Multivariate logistic regression					
FLUS score	1.02	0.03	0.96	1.08	0.6
Age	1.08	0.02	1.04	1.11	<0.001
Sex, Man	2.72	1.08	1.26	5.92	0.01
Oxygen administration	2.84	1.09	1.34	6.02	0.006
Relevant comorbidity	0.83	0.83	0.12	5.92	0.85

30-day all-cause mortality					
	Relativ Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.04	0.02	1	1.08	0.03
Multivariate logistic regression					
FLUS score	0.99	0.02	0.94	1.04	0.66
Age	1.07	0.02	1.04	1.09	<0.001
Sex, Man	2.35	0.8	1.21	4.57	0.012
Oxygen administration	1.98	0.64	1.05	3.73	0.04
Relevant comorbidity	0.72	0.48	0.2	2.66	0.63

18 Supplementary e-table 5: Relative risk of a FLUS scoring system counting sum of zones.

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FLUS for anterior and lateral scanning zones					
Mechanical ventilation due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	2.87	0.76	1.71	4.83	<0.001
Multivariate logistic regression					
FLUS score	2.49	0.78	1.35	4.6	0.003
Age	1	0.01	0.97	1.03	0.982
Sex, Man	1.04	0.5	0.41	2.66	0.923
Oxygen administration	1.72	0.93	0.6	4.98	0.314
Relevant comorbidity	All had relevant comorbidity				
Admission to intensive care					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	2.96	0.76	1.79	4.89	<0.001
Multivariate logistic regression					
FLUS score	2.7	0.8	1.5	4.84	0.001
Age	1	0.01	0.97	1.03	0.951
Sex, Man	1.27	0.58	0.52	3.1	0.598
Oxygen administration	1.21	0.61	0.48	3.24	0.644
Relevant comorbidity	All had relevant comorbidity				
High-flow oxygen treatment due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	2.05	0.28	1.59	2.66	<0.001
Multivariate logistic regression					
FLUS score	1.52	0.23	1.16	2.06	0.006
Age	1.01	0.01	1	1.02	0.153
Sex, Man	1.24	0.29	0.77	1.97	0.372
Oxygen administration	3.5	1.21	1.77	6.91	<0.001
Relevant comorbidity	All had relevant comorbidity				
30-day mortality due to COVID-19					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.76	0.37	1.17	2.66	0.007
Multivariate logistic regression					
FLUS score	1.16	0.29	0.71	1.90	0.553
Age	1.07	0.02	1.04	1.11	<0.001
Sex, Man	2.67	1.05	1.23	5.8	0.013
Oxygen administration	2.68	1.09	1.2	5.95	0.013
Relevant comorbidity	0.79	0.79	0.11	5.58	0.812

30-day all-cause mortality					
	Relative Risk	Std. Err	95% CI.		p-Value
Univariate logistic regression					
FLUS score	1.51	0.23	1.1	2.06	0.01
Multivariate logistic regression					
FLUS score	0.99	0.22	0.63	1.56	0.982
Age	1.07	0.02	1.04	1.09	<0.001
Sex, Man	2.31	0.79	1.18	4.51	0.014
Oxygen administration	1.93	0.66	0.98	3.78	0.056
Relevant comorbidity	0.73	0.5	0.2	2.76	0.65

20 Supplementary e-table 6: FLUS from anterior and lateral scanning zones without dorsal zones.

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	Univariate logistic regression					Multivariate logistic regression				
	Relative risk	Std. Err	95% CI.		p-Value	Relative risk	Std. Err	95% CI.		p-Value
Ventilator treatment due to COVID-19										
FLUS score	1.90	0.62	1.01	3.59	0.05	1.89	0.62	1.00	3.59	0.05
Age	0.99	0.02	0.96	1.03	0.71	1.00	0.02	0.96	1.03	0.81
Sex, Man	1.07	0.56	0.39	2.96	0.90	0.96	0.50	0.34	2.69	0.94
Oxygen administration	3.03	1.92	0.88	10.49	0.08	Omitted because of collinearity				
Relevant comorbidity	Omitted because of collinearity									
Admission to intensive care due to COVID-19										
FLUS score	2.00	0.63	1.08	3.72	0.03	1.98	0.63	1.06	3.69	0.03
Age	0.99	0.02	0.96	1.03	0.74	1.00	0.02	0.96	1.03	0.88
Sex, Man	1.21	0.61	0.45	3.27	0.70	1.12	0.57	0.41	3.04	0.83
Oxygen administration	3.18	2.00	0.93	10.91	0.07	Omitted because of collinearity				
Relevant comorbidity	Omitted because of collinearity									
High-flow oxygen treatment										
FLUS score	1.68	0.24	1.28	2.22	<0.001	Omitted because no patients in this group received high-flow oxygen treatment				
Age	1.01	0.01	1.00	1.03	0.14					
Sex, Man	1.40	0.35	0.86	2.27	0.18					
Oxygen administration	3.04	0.98	1.62	5.70	<0.001					
Relevant comorbidity										
30-day mortality due to COVID-19										
FLUS score	1.69	0.45	1.00	2.85	0.05	1.33	0.39	0.75	2.37	0.33
Age	1.06	0.02	1.02	1.10	<0.001	1.07	0.02	1.03	1.11	<0.001
Sex, Man	3.14	1.70	1.09	9.07	0.03	5.13	3.09	1.58	16.69	0.01
Oxygen administration	2.97	1.61	1.02	8.62	0.05	2.60	1.41	0.90	7.51	0.08
Relevant	All had comorbidity					All had comorbidity				

comorbidity										
30-day all-cause mortality										
FLUS score	1.69	0.45	1.00	2.85	0.05	1.33	0.39	0.75	2.37	0.33
Age	1.06	0.02	1.02	1.10	<0.001	1.07	0.02	1.03	1.11	<0.001
Sex, Man	3.14	1.70	1.09	9.07	0.03	5.13	3.09	1.58	16.69	0.01
Oxygen administration	2.97	1.61	1.02	8.62	0.05	2.60	1.41	0.90	7.51	0.08
Co-morbidity	All had comorbidity					All had comorbidity				

22 Supplementary e-table 7: Prediction analysis based on the subgroup who were known COVID-19 positive
23 before the FLUS examination was performed.

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	Univariate logistic regression					Multivariate logistic regression				
	Relative risk	Std. Err	95% CI.		p-Value	Relative risk	Std. Err	95% CI.		p-Value
Ventilator treatment due to COVID-19										
FLUS score	3.76	1.78	1.48	9.51	0.01	7.70	5.57	1.87	31.77	<0.001
Age	1.00	0.03	0.95	1.06	1	0.95	0.04	0.87	1.04	0.25
Sex, Man	1.17	1.16	0.17	8.16	0.87	1.15	1.25	0.13	9.75	0.90
Oxygen administration	Omitted because of collinearity					Omitted because of collinearity				
Relevant comorbidity	1.01	1.15	0.11	9.45	1.00					
Admission to intensive care due to COVID-19										
FLUS score	3.11	1.20	1.46	6.63	<0.001	3.56	1.49	1.57	8.08	<0.001
Age	1.00	0.02	0.96	1.05	0.90	0.98	0.03	0.93	1.03	0.41
Sex, Man	1.14	0.92	0.24	5.49	0.87	0.86	0.65	0.19	3.82	0.84
Oxygen administration	Omitted because of collinearity					Omitted because of collinearity				
Relevant comorbidity	0.72	0.61	0.14	3.81	0.70					
30-day mortality due to COVID-19										
FLUS score	1.38	0.74	0.48	3.96	0.55	0.67	0.56	0.13	3.41	0.63
Age	1.09	0.04	1.02	1.17	0.01	1.09	0.04	1.02	1.16	0.01
Sex, Man	0.68	0.48	0.17	2.74	0.58	0.93	0.64	0.24	3.61	0.92
Oxygen administration	9.50	6.07	2.72	33.22	<0.001	3.23	2.15	0.87	11.91	0.08
Relevant comorbidity	2.56	2.70	0.32	20.24	0.37	Omitted because of collinearity				
30-day all-cause mortality										
FLUS score	1.82	0.35	1.25	2.64	<0.001	0.33	0.21	0.10	1.12	0.08
Age	1.06	0.01	1.03	1.09	<0.001	1.07	0.02	1.03	1.11	<0.001
Sex, Man	0.69	0.26	0.33	1.43	0.32	1.06	0.47	0.45	2.52	0.89
Oxygen administration	4.65	2.63	1.54	14.07	0.01	2.46	0.96	1.14	5.27	0.02
Relevant	2.69	1.58	0.85	8.51	0.09	0.98	0.68	0.25	3.80	0.98

comorbidity										
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25 Supplementary e-table 8: Prediction analysis based on the subgroup who had unknown COVID-19 status at
26 the time point the FLUS examination was performed. Analysis of high-flow oxygen treatment is omitted
27 because no patient received this treatment in this subgroup.

28

Zone	N	Agreement	Expected agreement	Kappa	p-value
Right 1	25	64.00%	40.80%	0.39	<0.001
Right 2	25	68.00%	34.40%	0.51	<0.001
Right 3	25	64.00%	29.44%	0.49	<0.001
Right 4	25	72.00%	40.48%	0.53	<0.001
Right 5	11	63.64%	40.50%	0.39	0.04
Right 6	11	72.73%	60.33%	0.31	0.05
Right 7	11	63.64%	48.76%	0.29	0.05
Left 1	25	68.00%	40.80%	0.46	<0.001
Left 2	25	80.00%	48.32%	0.61	<0.001
Left 3	22	36.36%	26.45%	0.14	0.13
Left 4	23	65.22%	35.73%	0.46	<0.001
Left 5	11	54.55%	47.11%	0.14	0.26
Left 6	11	72.73%	61.98%	0.28	0.09
Left 7	11	72.73%	74.38%	-0.06	0.69

29 Supplementary table e9: Agreement and kappa values from the scanning zone. Rated by two independent
30 readers on randomly selected patients.