

Additional File 1

Patient	C _{rs} .CMV	C _{rs} (low-flow)	C _{rs} (low-flow) _{desc}	C _{rs} (PEEP Wave)
1	43	51	52	53
2	37	41	45	56
3	12	17	17	28
4	13	24	24	44
5	54	74	63	72
6	39	48	49	53
7	57	88	56	71
8	36	39	39	60
9	42	51	51	54
10	74	91	92	85
11	50	52	65	43
12	41	35	56	57
13	54	63	66	88
14	34	40	48	32
15	20	29	29	38
16	58	64	67	50
17	52	94	72	106
18	54	54	71	82
mean	43	53	53	60
SD	16	22	18	20

Table S1: Comparison of global respiratory system compliance (C_{rs}) obtained with the different reference methods and the PEEP wave maneuver. C_{rs}(CMV): C_{rs} calculated by dividing expiratory tidal volume by the difference between plateau airway pressure and PEEP during controlled mechanical ventilation (CMV). C_{rs}(low-flow): quasi-static C_{rs} obtained from the inspiratory part of the low-flow loop during CMV. C_{rs}(low-flow)_{desc}: quasi-static C_{rs} obtained from the corresponding expiratory part of the low-flow loop. All values are in ml/cmH₂O.

Patient	C _{rs} (low-flow) _{ventral}	C _{rs} (low-flow) _{dorsal}	C _{rs} (low-flow) per pixel	C _{rs} (low-flow) per pixel ventral	C _{rs} (low-flow) per pixel dorsal	C _{rs} (PEEP wave) _{ventral}	C _{rs} (PEEP wave) _{dorsal}	C _{rs} (PEEP wave) per pixel	C _{rs} (PEEP wave) per pixel ventral	C _{rs} (PEEP wave) per pixel dorsal
1	24	27	0.19	0.16	0.22	39	16	0.19	0.26	0.13
2	24	17	0.16	0.20	0.11	33	21	0.21	0.27	0.15
3	7	10	0.08	0.08	0.08	12	16	0.13	0.13	0.12
4	15	9	0.09	0.11	0.07	21	23	0.17	0.15	0.19
5	42	32	0.25	0.34	0.21	39	31	0.26	0.32	0.20
6	28	20	0.15	0.17	0.12	31	24	0.17	0.20	0.15
7	61	27	0.26	0.41	0.21	43	28	0.26	0.29	0.22
8	28	11	0.14	0.17	0.09	37	21	0.21	0.23	0.17
9	39	12	0.14	0.18	0.07	32	22	0.14	0.15	0.13
10	67	24	0.25	0.34	0.14	66	18	0.23	0.34	0.11
11	38	14	0.14	0.16	0.08	33	10	0.11	0.14	0.06
12	32	3	0.14	0.15	0.03	49	9	0.17	0.23	0.08
13	42	22	0.35	0.49	0.21	61	27	0.47	0.71	0.27
14	28	12	0.11	0.12	0.08	29	2	0.08	0.12	0.02
15	23	6	0.08	0.13	0.04	31	8	0.11	0.17	0.05
16	54	9	0.23	0.35	0.07	35	14	0.18	0.22	0.12
17	62	32	0.22	0.32	0.18	79	31	0.29	0.42	0.17
18	39	15	0.18	0.21	0.10	52	30	0.24	0.28	0.20
mean	36	17	0.18	0.23	0.12	40	19	0.20	0.26	0.14
SD	16	9	0.07	0.11	0.06	16	8	0.09	0.13	0.06

Table S2: Comparison of regional respiratory system compliance (C_{rs}). obtained with the low flow loop and the PEEP wave maneuver. All values are in ml/cmH₂O.

Comparison	r	p value for correlation	bias (mean of differences)	p value for mean of differences	95% limits of agreement
$C_{rs}(\text{PEEP wave})$ vs $C_{rs}(\text{low-flow})$	0.80	< 0.0001	+6.8	0.06	-20 to +34
$C_{rs}(\text{PEEP wave})$ vs $C_{rs}(\text{CMV})$	0.71	0.001	+17.1	0.0002	-13 to +47
$C_{rs}(\text{PEEP wave})_{\text{ventral}}$ vs $C_{rs}(\text{low-flow})_{\text{ventral}}$	0.77	0.0002	+4.8	0.08	-17 to +26
$C_{rs}(\text{PEEP wave})_{\text{dorsal}}$ vs $C_{rs}(\text{low-flow})_{\text{dorsal}}$	0.65	0.003	+2.1	0.24	-12 to +17
$C_{rs}(\text{PEEP wave})$ per pixel vs $C_{rs}(\text{low-flow})$ per pixel	0.86	< 0.0001	+0.03	0.03	-0.06 to +0.11
$C_{rs}(\text{PEEP wave})_{\text{ventral}}$ per pixel vs $C_{rs}(\text{low-flow})_{\text{ventral}}$ per pixel	0.81	< 0.0001	+0.03	0.09	-0.12 to + 0.19
$C_{rs}(\text{PEEP wave})_{\text{dorsal}}$ per pixel vs $C_{rs}(\text{low-flow})_{\text{dorsal}}$ per pixel	0.66	0.0027	+0.02	0.17	-0.09 to +0.12

Table S3: Correlation coefficients (r), p values for correlation, bias, p values for means of differences and 95% limits of agreement for the different comparisons between methods for determination of respiratory system compliance (C_{rs}) described in this paper. $C_{rs}(\text{PEEP wave})$: C_{rs} , determined with the PEEP wave maneuver. $C_{rs}(\text{CMV})$: C_{rs} , determined during volume-controlled mechanical ventilation as expiratory tidal volume divided by the difference between plateau airway pressure and PEEP. $C_{rs}(\text{low-flow})$: C_{rs} , determined with the low-flow maneuver.