

Online Supplement

Endurance Time During Constant Work Rate Cycle Ergometry in COPD: Development of an Integrated Database From Interventional Studies

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Eligible studies not included in integrated dataset

Inclusion of each study in the integrated data set required that the investigator could be contacted and that the investigator agreed to perform the considerable work required to provide the study's subject-by-subject data in a format that could be transferred to the CBQC data base. In many cases, personal relationships between the CBQC team and the investigator were helpful in facilitating data contributions.

The following studies were initially identified as eligible but ultimately were not included in the integrated database (reason identified below).

Bronchodilator (n = 5)

The following studies were not included because the study sponsor was not able to transfer the participant-level data:

Worth H et al. *Respir Med* 2010; 104:1450-1459

Beeh KM et al. *COPD* 2011; 8:340-345

O'Donnell DE et al. *Respir Med* 2011; 105:1030-1036

Beeh KM et al. *Int J COPD* 2012; 7:503-513

Beeh KM et al. *Respir Med* 2014; 108:584-592

Exercise Training (n = 16)

The following studies were not included due to a lack of response from the Investigator:

Mador MJ et al. *Chest* 2004; 125:2036-2045

Mador MJ et al. *Chest* 2005; 128:1216-1224

Mador MJ et al. *J Cardiopulm Rehab Prev* 2009; 29:126-132

Scorsone D et al. *Chest* 2010; 138:1133-1139

Mador MJ et al. *J Cardiopulm Rehab Prev* 2011; 31:52-59

Mador MJ et al. *J Cardiopulm Rehab Prev* 2012; 32:155-162

Mador MJ et al. *J Cardiopulm Rehab Prev* 2014; 34:54-61

An outreach to the respective Investigator was not attempted for the following exercise training studies, since the CWRCE WG Co-chairs had determined that a sufficient number of studies/subjects were already included into the integrated database:

Goldstein RS et al. *Lancet* 1994; 344:1394-1397
Collins EG et al. *J Rehabil Res Dev* 2003; 40:35-44
Ong KC et al. *Respir Care* 2004; 49:1498-1503
Broekhuizen R et al. *Thorax* 2005; 60:376-82
Leung RW et al. *J Physiother* 2010; 56:105-112
van Wetering CR et al. *J Am Med Dir Assoc* 2010; 11:179-187
van Wetering CR et al. *Thorax* 2010; 65:7-13
Klijn P et al. *Am J Respir Crit Care Med* 2013; 188:193-200
Santos C et al. *Respir Care* 2015; 60:1603-1609

Studies not eligible for inclusion in integrated dataset

The CWRCE working group co-chairs (academic: Dr. R. Casaburi; industry: Dr. A. Hamilton) classified the following studies as not eligible for inclusion in the integrated database. Reasons for exclusion included: (i) limited duration (e.g., single dose) bronchodilator studies, (ii) exercise training studies with a small number of subjects performed by unfamiliar authors, non-standardized tests, etc., (ii) non-endurance training interventions, unsupervised home training, etc.

Bronchodilator (n = 26)

O'Donnell DE et al. *Am J Respir Crit Care Med* 1998; 158:1557-1565
O'Donnell DE et al. *Am J Respir Crit Care Med*. 1999; 160:542-549
Oga T et al. *Am J Respir Crit Care Med*. 2000; 161:1897-1901
Oga T et al. *Chest* 2003; 123:1810-1816
Saey D et al. *Am J Respir Crit Care Med* 2003; 168:425-430
O'Donnell DE et al. *Eur Respir J* 2004; 24:86-94
Oga T et al. *Respir Med* 2004; 98:515-521
Aliverti A et al. *Thorax* 2005; 60:916-924
Mahler DA et al. *Med Sci Sports Exerc* 2005; 37:529-535
Pepin V et al. *Am J Respir Crit Care Med* 2005; 172:1517-1522
Neder JA et al. *Respir Med* 2007; 101:2056-2064
Travers J et al. *Respir Med* 2007; 101:2017-2024
O'Donnell DE et al. *Thorax* 2009; 64:216-223
Laveneziana P et al. *Eur J Appl Physiol* 2009; 107:633-643
Berton DC et al. *Thorax* 2010; 65:588-593
Zhang X et al. *Chest* 2010; 137:1354-1361
Guenette JA et al. *Respir Med* 2011; 105:1836-1845
Vagaggini B et al. *Pulm Pharmacol Ther* 2011; 24:49-54
Canto ND et al. *Respir Med* 2012; 106:1404-1412
Magnussen H et al. *Respir Med* 2012; 106:1413-1420
O'Donnell DE et al. *Eur Respir J* 2012; 39:1104-1112
Voduc N et al. *Int J COPD* 2012; 7:245-252
Yoshimura K et al. *Int J COPD* 2012; 7:109-117
Guenette JA et al. *Respir Med* 2013; 107:708-716
Ortega F et al. *Respir Care* 2014; 59:81-89
Qin YY et al. *Pulm Pharmacol Ther* 2015; 30:51-56

Exercise Training (n = 29)

- Pardy RL et al. *Am Rev Respir Dis* 1981; 123:421-425
- Zack MB et al. *Chest* 1985; 88:669-675
- Casaburi R et al. *Eur Respir J* 1989; Suppl 7:618s-623s
- Simpson K et al. *Thorax* 1992; 47:70-75
- Weiner P et al. *Chest* 1992; 102:1351-1356
- Cambach W et al. *Eur Respir J* 1997; 10:104-113
- Debigare RJ et al. *Cardiopulm Rehabil* 1999; 19:235-241
- Mador MJ et al. *Am J Respir Crit Care Med.* 2001; 163:930-935
- Ortega Fet al. *Am J Respir Crit Care Med.* 2002; 166:669-674
- Hawkins Pet al. *Thorax* 2002; 57:853-859
- Costes FJ et al. *Cardiopulm Rehabil* 2003; 23:307-313
- Puente-Maestu L et al. *Eur J Appl Physiol* 2003; 88:580-587
- Pitta F et al. *Respiration* 2004; 71:477-483
- Casaburi R et al. *Am J Respir Crit Care Med.* 2004; 170:870-878
- Mercken EM et al. *Am J Respir Crit Care Med.* 2005; 172:994-1001
- Na JO et al. *Monaldi Arch Chest Dis* 2005; 63:30-36
- van 't Hul A et al. *Eur Respir J* 2006; 27:65-72
- von Leupoldt A et al. *Lung* 2008; 186:387-391
- Dolmage T et al. *Chest* 2008; 133:370-376
- Stav D et al. *BMC Pulm med* 2009; 9:26
- Eves ND et al. *Chest* 2009; 135:609-618
- Voduc N et al. *Can Respir J* 2010; 17:e14-19
- van Helvoort HA et al. *Arch Phys Med Rehabil* 2011; 92:111-117
- Gagliardi E et al. *Respiratory Physiology Neurobiology* 2014; 190:124-130
- Chen R et al. *Intern Med J* 2014; 44:791-800
- Marquis N et al. *Int J Telerehabil* 2014; 6:21-30
- Stewart KF et al. *J Am Med Dir Assoc* 2014; 15:655-664
- Marquis N et al. *Telemed J E Health* 2015; 21:870-879
- Nyberg A et al. *Clin Respir J* 2015; 9:278-288

Table A1. Acceptable Value Ranges and Prevalence of Out-of-Range Values

Variable Name	Acceptable Range	% Out of Range
Borg dyspnea		
○ rest	0 to 10 units	0%
○ isotime	0 to 10 units	0.18%
○ end-exercise	0 to 10 units	0.007%
Borg leg fatigue		
○ rest	0 to 10 units	0.010%
○ isotime	0 to 10 units	0.43%
○ end-exercise	0 to 10 units	0.038%
HR		
○ rest	40 to 150 b/min	0.26%
○ isotime	70 to 190 b/min	0.24%
○ end-exercise	70 to 190 b/min	0.41%
\dot{V}_E		
○ rest	5 to 25 L/min	2.13%
○ isotime	15 to 90 L/min	0.99%
○ end-exercise	15 to 90 L/min	0.18%
V_T		
○ rest	0.2 to 2.5 L	0.53%
○ isotime	0.35 to 3.5 L	0.97%
○ end-exercise	0.35 to 3.5 L	0.35%
RR		
○ rest	5 to 45 breaths/min	0.78%
○ isotime	15 to 60 breaths/min	0.29%
○ end-exercise	15 to 60 breaths/min	0.48%
IC		
○ rest	0.7 to 4 L	0.86%

○ isotime	0.5 to 3.5 L	0.15%
○ end-exercise	0.5 to 3.5 L	0.42%
$\dot{V}O_2$		
○ rest	0 to 0.8 L/min	2.31%
○ isotime	0.3 to 3 L/min	0.57%
○ end-exercise	0.3 to 3 L/min	0.25%
$\dot{V}CO_2$		
○ rest	0 to 0.7 L/min	3.73%
○ isotime	0.3 to 3.0 L/min	0.49%
○ end-exercise	0.3 to 3.0 L/min	0.51%
SpO ₂		
○ rest	85 to 100%	0.52%
○ isotime	75 to 100%	0%
○ end-exercise	75 to 100%	0.57%

Abbreviations: ET=Endurance Time; FEV₁=Forced Expiratory Volume in 1 second; FVC=Forced Vital Capacity; HR=heart rate; IC=Inspiratory Capacity; RR=Respiratory Rate; SpO₂=Blood oxygen saturation level; $\dot{V}CO_2$ =Carbon dioxide output; $\dot{V}O_2$ =Oxygen uptake; \dot{V}_E =Pulmonary ventilation; V_T= Tidal Volume; 6MWD=Six Minute Walk Distance.

TABLES S1.1 and S1.2

Spirometry

Table S1.1. Baseline and End of Treatment Clinical Characteristics: FVC (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	4998	3.02	0.91	1.01	2.34	2.93	3.62	5.94	656 (11.6%)
Bronchodilator (A)	1394	2.99	0.86	1.01	2.38	2.91	3.54	5.89	3 (0.2%)
Bronchodilator (P)	766	2.95	0.91	1.06	2.26	2.87	3.54	5.86	3 (0.4%)
Exercise Training	2838	3.05	0.94	1.02	2.36	2.97	3.68	5.94	650 (18.6%)
End of Treatment									
Total	2222	3.17	0.89	1.09	2.50	3.11	3.78	5.95	3433 (60.7%)
Bronchodilator (A)	1338	3.30	0.88	1.35	2.66	3.26	3.91	5.95	60 (4.3%)
Bronchodilator (P)	699	3.01	0.90	1.09	2.35	2.92	3.62	5.92	70 (9.1%)
Exercise Training	185	2.86	0.79	1.10	2.30	2.80	3.40	4.95	3303 (94.7%)
Change									
Total	2216	0.22	0.44	-1.84	-0.05	0.18	0.46	2.84	3439 (60.8%)
Bronchodilator (A)	1337	0.32	0.44	-1.51	0.04	0.29	0.57	2.84	61 (4.4%)
Bronchodilator (P)	698	0.04	0.38	-1.84	-0.16	0.04	0.25	1.70	71 (9.2%)
Exercise Training	181	0.08	0.35	-0.90	-0.13	0.00	0.24	1.39	3307 (94.8%)

Table S1.2. Baseline and End of Treatment Clinical Characteristics: FEV₁/FVC (%)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	4935	44.41	12.20	15.81	35.09	43.75	53.38	90.28	719 (12.7%)
Bronchodilator (A)	1384	48.01	11.31	16.46	39.83	47.39	56.20	90.28	13 (0.9%)
Bronchodilator (P)	761	47.10	10.63	20.21	39.21	46.67	54.73	83.73	8 (1.0%)
Exercise Training	2790	41.89	12.43	15.81	32.14	40.29	50.44	83.00	698 (20.0%)
End of Treatment									
Total	2202	48.61	11.84	16.40	40.00	48.28	57.00	94.33	3453 (61.1%)
Bronchodilator (A)	1324	49.75	11.88	16.40	41.46	49.31	58.37	94.33	74 (5.3%)
Bronchodilator (P)	694	47.41	11.30	22.22	38.92	46.73	55.22	86.94	75 (9.8%)
Exercise Training	184	44.91	12.39	19.09	35.57	42.99	53.30	83.00	3304 (94.7%)
Change									
Total	2188	1.14	5.23	-44.70	-1.85	1.12	4.00	39.83	3467 (61.3%)
Bronchodilator (A)	1316	1.80	5.43	-44.70	-1.12	1.84	4.81	39.83	82 (5.9%)
Bronchodilator (P)	692	0.06	4.84	-22.22	-2.63	0.00	2.59	23.20	77 (10.0%)
Exercise Training	180	0.44	4.25	-9.11	-2.00	0.38	3.00	18.90	3308 (94.8%)

TABLES S2.1 – S2.10

**Physiologic and perceptual variables
Incremental cycle ergometry**

Exercise Training	123	-0.83	2.68	-7.00	-3.00	-1.00	1.00	6.00	3365 (96.5%)
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^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.3. Incremental Peak Exercise: HR (beats/min)

Intervention	N	Me an	SD	Minim um	1st Q	Medi an	3rd Q	Maxim um	Missing n (%)
Baseline									
Total	429 8	124. 22	19.3 4	70.00	111.00	124.0 0	137.0 0	189.00	1356 (24.0%)
Bronchodilato r (A)	794	126. 77	19.2 5	79.00	113.00	127.0 0	141.0 0	184.00	603 (43.2%)
Bronchodilato r (P)	397	126. 84	18.3 6	70.00	113.00	126.0 0	139.0 0	185.00	372 (48.4%)
Exercise Training	310 7	123. 23	19.4 0	71.00	110.00	123.0 0	136.0 0	189.00	381 (10.9%)
End of Treatment^a									
Exercise Training	252	130. 46	19.3 1	88.00	117.50	130.0 0	145.0 0	175.20	3243 (92.8%)
Change									
Exercise Training	243	0.64	12.3 3	-51.00	-6.00	0.00	7.00	50.00	3252 (93.0%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.4. Incremental Peak Exercise: IC (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline^a									
Total ^a	170	1.72	0.54	0.74	1.28	1.64	2.11	3.18	5484 (97.0%)
Bronchodilator (A)	114	1.73	0.54	0.74	1.28	1.63	2.16	3.18	1283 (91.8%)
Bronchodilator (P)	56	1.69	0.53	0.91	1.22	1.65	2.00	3.17	713 (92.7%)

^aIC performed in bronchodilator group at baseline only

Table S2.5. Incremental Peak Exercise: \dot{V}_E (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	3669	42.75	14.46	10.00	32.00	41.00	52.00	90.00	1985 (53.1%)
Bronchodilator (A)	648	47.49	14.58	11.00	37.15	46.30	56.90	89.17	749 (53.6%)
Bronchodilator (P)	242	47.65	14.78	13.80	36.55	46.60	57.15	88.40	527 (68.5%)
Exercise Training	2779	41.22	14.07	10.00	31.00	39.00	49.40	90.00	709 (20.3%)
End of Treatment^a									
Exercise Training	279	40.61	13.91	15.50	31.10	38.70	49.20	83.40	3216 (92.0%)
Change									
Exercise Training	270	1.47	6.06	-33.00	-0.90	1.20	3.70	16.60	3225 (92.3%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.6. Incremental Peak Exercise: $\dot{V}O_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	3875	1.14	0.39	0.26	0.86	1.09	1.36	2.99	1779 (31.5%)
Bronchodilator (A)	653	1.29	0.43	0.26	0.98	1.24	1.54	2.99	744 (53.3%)
Bronchodilator (P)	246	1.28	0.43	0.31	0.97	1.24	1.57	2.70	523 (68.0%)
Exercise Training	2976	1.10	0.37	0.26	0.83	1.06	1.31	2.93	512 (14.7%)
End of Treatment^a									
Exercise Training	282	1.11	0.37	0.31	0.81	1.10	1.36	2.25	3213 (91.9%)
Change									
Exercise Training	272	0.08	0.14	-0.27	-0.01	0.07	0.15	0.75	3223 (92.2%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.7. Incremental Peak Exercise: $\dot{V}CO_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	2671	1.21	0.45	0.27	0.89	1.15	1.48	2.93	2983 (52.8%)
Bronchodilator (A)	647	1.37	0.47	0.32	1.01	1.31	1.69	2.90	750 (53.7%)
Bronchodilator (P)	242	1.35	0.47	0.42	1.01	1.29	1.66	2.93	527 (68.5%)
Exercise Training	1782	1.14	0.41	0.27	0.85	1.07	1.37	2.91	1706 (48.9%)
End of Treatment^a									

Exercise Training	271	1.15	0.43	0.32	0.81	1.14	1.45	2.61	3224 (92.2%)
Change									
Exercise Training	262	0.08	0.15	-0.26	0.00	0.07	0.13	0.77	3233 (92.5%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.8. Incremental Peak Exercise: V_T (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	2632	1.43	0.49	0.00	1.09	1.36	1.70	10.00	3022 (53.4%)
Bronchodilator (A)	717	1.50	0.47	0.56	1.15	1.45	1.81	3.73	680 (48.7%)
Bronchodilator (P)	326	1.46	0.51	0.00	1.06	1.41	1.74	3.58	443 (57.6%)
Exercise Training	1589	1.40	0.49	0.05	1.07	1.34	1.66	10.00	1899 (54.4%)
End of Treatment^a									
Exercise Training	79	1.45	0.40	0.78	1.12	1.43	1.79	2.46	3416 (97.7%)
Change									
Exercise Training	70	0.10	0.14	-0.20	0.00	0.08	0.15	0.70	3425 (98.0%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.9. Incremental Peak Exercise: RR (breaths/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total	2449	32.83	7.08	15.20	27.78	32.23	37.06	59.00	3205 (56.7%)
Bronchodilator (A)	652	32.59	7.27	16.00	27.88	32.00	36.33	59.00	745 (53.3%)

Bronchodilator (P)	245	33.26	7.28	17.76	28.00	33.00	37.00	58.95	524 (68.1%)
Exercise Training	1552	32.86	6.97	15.20	27.77	32.36	37.57	57.69	1936 (55.5%)
End of Treatment^a									
Exercise Training	79	31.86	5.64	21.60	27.40	31.00	37.00	44.00	3416 (97.7%)
Change									
Exercise Training	70	-0.34	3.62	-9.30	-2.00	0.00	1.00	12.40	3425 (98.0%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

Table S2.10. Incremental Peak Exercise: SpO₂ (%)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total ^a	3192	92.00	4.21	75.00	90.00	93.00	95.00	100.00	2462 (43.5%)
Bronchodilator (A)	383	94.43	3.44	81.00	93.00	95.00	97.00	100.00	1014 (72.6%)
Bronchodilator (P)	188	94.39	3.91	81.00	92.50	95.00	97.00	100.00	581 (75.6%)
Exercise Training	2621	91.47	4.16	75.00	89.00	92.00	94.00	100.00	867 (24.9%)
End of Treatment^a									
Exercise Training	54	92.24	4.12	83.00	89.00	93.00	96.00	99.00	3434 (98.5%)
Change									
Exercise Training	47	-1.17	3.35	-12.00	-3.00	-1.00	1.00	7.00	3441 (98.7%)

^aNone of the subjects in bronchodilator studies performed end of treatment incremental exercise tests.

TABLES S3.1 – S3.30

**Physiologic and perceptual variables
Constant work rate cycle ergometry**

Table S3.1. Baseline CWR Physiologic Variables: Borg Dyspnea

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	4196	1.30	1.39	0.00	0.00	1.00	2.00	8.00	1458 (25.8%)
Bronchodilator (A)	1391	0.89	1.26	0.00	0.00	0.50	1.00	7.00	6 (0.4%)
Bronchodilator (P)	765	0.83	1.22	0.00	0.00	0.00	1.00	7.00	4 (0.5%)
Exercise Training	2040	1.75	1.39	0.00	0.50	2.00	3.00	8.00	1448 (41.5%)
End									
Total	5265	6.70	2.29	0.00	5.00	7.00	9.00	10.00	389 (6.9%)
Bronchodilator (A)	1338	6.57	2.48	0.00	5.00	7.00	9.00	10.00	59 (4.2%)
Bronchodilator (P)	712	6.53	2.49	0.00	4.00	7.00	9.00	10.00	57 (7.4%)
Exercise Training	3215	6.79	2.16	0.00	5.00	7.00	9.00	10.00	273 (7.8%)
Isotime									
Total	922	5.57	2.43	0.00	4.00	5.00	7.00	10.00	4732 (83.7%)
Bronchodilator (A)	226	4.75	2.55	0.00	3.00	4.53	6.82	10.00	1171 (83.8%)
Bronchodilator (P)	189	4.94	2.44	0.00	3.00	4.57	6.25	10.00	580 (75.4%)
Exercise Training	507	6.18	2.20	2.00	4.00	6.00	8.00	10.00	2981 (85.5%)

Table S3.2. End of Treatment for CWR Physiologic Variables: Borg Dyspnea

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	2254	0.80	1.23	0.00	0.00	0.00	1.00	8.00	3401 (60.1%)
Bronchodilator (A)	1352	0.82	1.23	0.00	0.00	0.00	1.00	8.00	46 (3.3%)
Bronchodilator (P)	697	0.89	1.31	0.00	0.00	0.00	1.00	8.00	72 (9.4%)
Exercise Training	205	0.39	0.72	0.00	0.00	0.00	1.00	3.00	3283 (94.1%)
End									
Total	3047	6.05	2.51	0.00	4.00	6.00	8.00	10.00	2608 (46.1%)
Bronchodilator (A)	1298	6.37	2.59	0.00	4.00	7.00	9.00	10.00	100 (7.2%)
Bronchodilator (P)	642	6.47	2.58	0.00	4.00	7.00	9.00	10.00	127 (16.5%)
Exercise Training	1107	5.42	2.22	0.00	4.00	5.00	7.00	10.00	2381 (68.3%)
Isotime									
Total	1019	4.53	2.21	0.00	3.00	4.00	6.00	10.00	4635 (82.0%)
Bronchodilator (A)	221	4.65	2.61	0.00	3.00	4.05	6.99	10.00	1176 (84.2%)
Bronchodilator (P)	170	4.99	2.42	0.50	3.00	4.21	6.85	10.00	599 (77.9%)
Exercise Training	628	4.36	1.97	0.00	3.00	4.00	5.00	10.00	2860 (82.0%)

Table S3.3. Change in CWR Physiologic Variables: Borg Dyspnea

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	2245	-0.05	1.00	-6.50	0.00	0.00	0.00	8.00	3410 (60.3%)
Bronchodilator (A)	1347	-0.08	1.00	-6.50	0.00	0.00	0.00	8.00	51 (3.6%)
Bronchodilator (P)	694	0.06	1.00	-5.00	0.00	0.00	0.00	5.00	75 (9.8%)
Exercise Training	204	-0.29	1.01	-3.00	-1.00	0.00	0.00	2.00	3284 (94.2%)
End									
Total	3036	-0.40	2.01	-9.00	-1.00	0.00	1.00	9.00	2619 (46.3%)
Bronchodilator (A)	1295	-0.22	1.81	-8.50	-1.00	0.00	1.00	9.00	103 (7.4%)
Bronchodilator (P)	641	-0.10	1.87	-7.00	-1.00	0.00	1.00	8.00	128 (16.6%)
Exercise Training	1100	-0.77	2.24	-9.00	-2.00	0.00	0.00	7.00	2388 (68.5%)
Isotime									
Total	875	-1.11	2.56	-9.00	-3.00	-1.00	0.50	7.33	4779 (84.5%)
Bronchodilator (A)	214	-0.02	2.26	-8.00	-1.00	0.00	1.00	7.33	1183 (84.7%)
Bronchodilator (P)	167	0.02	2.25	-6.73	-1.32	0.00	1.19	5.73	602 (78.3%)
Exercise Training	494	-1.96	2.45	-9.00	-4.00	-2.00	0.00	6.50	2994 (85.8%)

Table S3.4. Baseline CWR Physiologic Variables: Borg Leg Fatigue

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	4016	1.27	1.47	0.00	0.00	1.00	2.00	9.00	1638 (29.0%)
Bronchodilator (A)	1275	0.87	1.31	0.00	0.00	0.00	1.00	9.00	122 (8.7%)
Bronchodilator (P)	705	0.78	1.25	0.00	0.00	0.00	1.00	7.00	64 (8.3%)
Exercise Training	2036	1.68	1.52	0.00	0.50	2.00	3.00	9.00	1452 (41.6%)
End									
Total	4981	6.16	2.61	0.00	4.00	7.00	8.00	10.00	673 (11.9%)
Bronchodilator (A)	1221	6.24	2.79	0.00	4.00	7.00	9.00	10.00	176 (12.6%)
Bronchodilator (P)	653	6.17	2.76	0.00	4.00	6.00	9.00	10.00	116 (15.1%)
Exercise Training	3107	6.13	2.49	0.00	4.00	6.00	8.00	10.00	381 (10.9%)
Isotime									
Total	743	5.83	2.35	0.00	4.00	5.36	7.00	10.00	4911 (86.9%)
Bronchodilator (A)	107	5.20	2.65	0.00	3.00	5.00	7.00	10.00	1290 (92.3%)
Bronchodilator (P)	129	5.47	2.37	0.03	3.96	5.00	7.00	10.00	640 (83.2%)
Exercise Training	507	6.05	2.25	0.00	4.00	6.00	8.00	10.00	2981 (85.5%)

Table S3.5. End of Treatment for CWR Physiologic Variables: Borg Leg Fatigue

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	2086	0.81	1.28	0.00	0.00	0.00	1.00	8.00	3569 (63.1%)
Bronchodilator (A)	1239	0.88	1.34	0.00	0.00	0.00	1.00	8.00	159 (11.4%)
Bronchodilator (P)	642	0.85	1.28	0.00	0.00	0.00	1.00	7.00	127 (16.5%)
Exercise Training	205	0.27	0.63	0.00	0.00	0.00	0.00	3.00	3283 (94.1%)
End									
Total	2775	5.88	2.72	0.00	4.00	5.00	8.00	10.00	2880 (50.9%)
Bronchodilator (A)	1186	6.55	2.72	0.00	5.00	7.00	9.00	10.00	212 (15.2%)
Bronchodilator (P)	588	6.38	2.77	0.00	4.00	7.00	9.00	10.00	181 (23.5%)
Exercise Training	1001	4.79	2.31	0.00	3.00	4.00	6.00	10.00	2487 (71.3%)
Isotime									
Total	748	4.38	2.04	0.00	3.00	4.00	5.00	10.00	4906 (86.8%)
Bronchodilator (A)	109	5.10	2.56	0.00	3.12	5.00	7.00	10.00	1288 (92.2%)
Bronchodilator (P)	115	5.22	2.41	0.00	3.13	5.00	6.75	10.00	654 (85.0%)
Exercise Training	524	4.05	1.73	0.00	3.00	4.00	5.00	10.00	2964 (85.0%)

Table S3.6. Change in CWR Physiologic Variables: Borg Leg Fatigue

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	2079	0.01	0.99	-6.00	0.00	0.00	0.00	6.00	3576 (63.2%)
Bronchodilator (A)	1236	0.01	1.01	-6.00	0.00	0.00	0.00	6.00	162 (11.6%)
Bronchodilator (P)	639	0.07	0.96	-4.00	0.00	0.00	0.00	5.50	130 (16.9%)
Exercise Training	204	-0.15	0.95	-3.00	0.00	0.00	0.00	3.00	3284 (94.2%)
End									
Total	2764	-0.14	2.24	-10.00	-1.00	0.00	1.00	10.00	2891 (51.1%)
Bronchodilator (A)	1183	0.28	2.01	-10.00	-1.00	0.00	1.00	10.00	215 (15.4%)
Bronchodilator (P)	587	0.14	1.90	-10.00	-1.00	0.00	1.00	8.00	182 (23.7%)
Exercise Training	994	-0.80	2.51	-9.00	-2.00	-1.00	1.00	8.00	2494 (71.5%)
Isotime									
Total	707	-1.46	2.43	-10.00	-3.00	-1.00	0.00	8.00	4947 (87.5%)
Bronchodilator (A)	101	-0.28	2.01	-6.13	-1.49	0.00	0.98	5.33	1296 (92.8%)
Bronchodilator (P)	112	-0.26	2.21	-10.00	-1.47	0.00	1.00	5.73	657 (85.4%)
Exercise Training	494	-1.98	2.38	-9.50	-4.00	-2.00	0.00	8.00	2994 (85.8%)

Table S3.7. Baseline CWR Physiologic Variables: HR (beats/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1567	81.93	14.44	45.00	72.00	80.00	90.00	143.00	4087 (72.3%)
Bronchodilator (A)	814	80.67	14.75	45.00	71.00	79.00	89.00	143.00	583 (41.7%)
Bronchodilator (P)	536	81.43	14.30	46.00	72.00	79.00	89.00	137.00	233 (30.3%)
Exercise Training	217	87.84	12.04	50.00	79.00	87.00	96.00	119.00	3271 (93.8%)
End									
Total	2793	120.74	19.24	70.00	107.00	120.00	133.00	189.00	2861 (50.6%)
Bronchodilator (A)	933	123.42	19.40	70.00	109.00	123.00	137.00	187.00	464 (33.2%)
Bronchodilator (P)	548	124.32	18.79	79.00	110.50	123.00	136.50	189.00	221 (28.7%)
Exercise Training	1312	117.33	18.75	71.00	104.00	116.10	130.00	179.10	2176 (62.4%)
Isotime									
Total	986	115.34	18.25	71.00	102.00	114.25	128.00	189.00	4668 (82.6%)
Bronchodilator (A)	226	116.35	18.57	75.00	103.00	116.00	130.00	170.00	1171 (83.8%)
Bronchodilator (P)	187	117.56	17.68	76.00	104.74	116.00	131.00	189.00	582 (75.7%)
Exercise Training	573	114.21	18.25	71.00	101.00	113.00	126.00	179.10	2915 (83.6%)

Table S3.8. End of Treatment for CWR Physiologic Variables: HR (beats/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1486	81.84	14.16	45.00	72.00	80.95	90.00	148.00	4168 (73.7%)
Bronchodilator (A)	791	80.97	14.24	49.00	71.00	80.00	89.00	141.00	606 (43.4%)
Bronchodilator (P)	484	81.03	14.08	45.00	72.00	80.00	90.00	148.00	285 (37.1%)
Exercise Training	211	86.96	12.98	53.00	78.00	87.00	95.00	125.00	3277 (94.0%)
End									
Total	2389	121.73	18.88	73.00	109.00	121.00	134.00	184.00	3265 (57.7%)
Bronchodilator (A)	894	123.83	18.78	75.00	110.00	124.00	137.00	184.00	503 (36.0%)
Bronchodilator (P)	487	124.31	19.49	73.00	110.00	123.00	138.00	180.00	282 (36.7%)
Exercise Training	1008	118.63	18.22	73.00	106.00	119.00	131.00	174.70	2480 (71.1%)
Isotime									
Total	1006	113.97	17.66	72.77	101.00	113.00	126.00	172.00	4648 (82.2%)
Bronchodilator (A)	218	119.07	18.64	72.77	106.00	119.00	132.00	172.00	1179 (84.4%)
Bronchodilator (P)	169	118.51	16.83	77.00	106.00	118.00	129.00	160.67	600 (78.0%)
Exercise Training	619	110.94	16.85	73.00	100.00	110.00	122.00	169.00	2869 (82.3%)

Table S3.9. Change in CWR Physiologic Variables: HR (beats/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1445	-0.08	11.83	-64.00	-6.00	0.00	6.00	78.00	4209 (74.4%)
Bronchodilator (A)	765	0.34	11.95	-64.00	-6.00	0.00	7.00	69.00	632 (45.2%)
Bronchodilator (P)	470	-0.35	12.47	-57.00	-7.00	-1.00	6.00	78.00	299 (38.9%)
Exercise Training	210	-1.04	9.70	-41.00	-5.00	-1.00	4.00	31.00	3278 (94.0%)
End									
Total	2351	0.02	12.03	-89.00	-7.00	0.00	6.00	81.00	3303 (58.4%)
Bronchodilator (A)	881	0.39	11.60	-48.00	-6.00	0.00	7.00	56.00	516 (36.9%)
Bronchodilator (P)	478	-0.59	12.72	-89.00	-7.00	-1.00	4.00	81.00	291 (37.8%)
Exercise Training	992	0.00	12.07	-61.00	-7.00	0.00	7.00	66.00	2496 (71.6%)
Isotime									
Total	946	-1.75	11.76	-91.00	-8.00	-1.68	5.00	48.25	4708 (83.3%)
Bronchodilator (A)	212	2.44	11.63	-32.87	-3.59	2.00	8.00	48.25	1185 (84.8%)
Bronchodilator (P)	164	0.06	13.19	-91.00	-5.80	1.00	7.80	41.06	605 (78.7%)
Exercise Training	570	-3.83	10.86	-67.00	-10.00	-3.00	2.00	47.00	2918 (83.7%)

Table S3.10. Baseline CWR Physiologic Variables: IC (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	2121	2.27	0.65	0.75	1.79	2.22	2.71	3.99	3533 (62.5%)
Bronchodilator (A)	1343	2.29	0.65	0.75	1.81	2.24	2.72	3.99	54 (3.9%)
Bronchodilator (P)	750	2.25	0.65	0.80	1.77	2.18	2.68	3.99	19 (2.5%)
Exercise Training	28	2.07	0.77	0.97	1.52	2.02	2.66	3.56	3460 (99.2%)
End									
Total	2483	1.92	0.60	0.52	1.46	1.86	2.34	3.50	3171 (56.1%)
Bronchodilator (A)	1236	2.01	0.60	0.56	1.55	1.97	2.45	3.49	161 (11.5%)
Bronchodilator (P)	656	1.93	0.61	0.52	1.47	1.88	2.33	3.49	113 (14.7%)
Exercise Training	591	1.72	0.54	0.71	1.32	1.65	2.02	3.50	2897 (83.1%)
Isotime									
Total	784	1.82	0.56	0.52	1.40	1.72	2.14	3.45	4870 (86.1%)
Bronchodilator (A)	221	1.91	0.53	0.80	1.51	1.83	2.22	3.31	1176 (84.2%)
Bronchodilator (P)	179	1.90	0.65	0.52	1.41	1.81	2.36	3.41	590 (76.7%)
Exercise Training	384	1.72	0.53	0.71	1.35	1.65	2.03	3.45	3104 (89.0%)

Table S3.11. End of Treatment for CWR Physiologic Variables: IC (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1993	2.36	0.67	0.70	1.87	2.31	2.83	4.00	3662 (64.8%)
Bronchodilator (A)	1288	2.44	0.67	0.70	1.94	2.39	2.90	4.00	110 (7.9%)
Bronchodilator (P)	677	2.22	0.63	0.82	1.77	2.17	2.66	3.98	92 (12.0%)
Exercise Training	28	2.07	0.73	1.02	1.43	1.84	2.76	3.40	3460 (99.2%)
End									
Total	2165	2.00	0.61	0.50	1.54	1.94	2.43	3.47	3490 (61.7%)
Bronchodilator (A)	1184	2.11	0.61	0.50	1.65	2.09	2.58	3.47	214 (15.3%)
Bronchodilator (P)	587	1.94	0.59	0.54	1.52	1.89	2.32	3.45	182 (23.7%)
Exercise Training	394	1.77	0.54	0.75	1.36	1.70	2.04	3.43	3094 (88.7%)
Isotime									
Total	760	1.92	0.57	0.76	1.48	1.83	2.27	3.47	4894 (86.6%)
Bronchodilator (A)	212	2.01	0.56	0.86	1.59	1.96	2.41	3.39	1185 (84.8%)
Bronchodilator (P)	164	1.97	0.65	0.76	1.48	1.87	2.38	3.47	605 (78.7%)
Exercise Training	384	1.85	0.54	0.82	1.44	1.75	2.17	3.46	3104 (89.0%)

Table S3.12. Change in CWR Physiologic Variables: IC (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1955	0.09	0.41	-2.29	-0.14	0.09	0.32	2.67	3700 (65.4%)
Bronchodilator (A)	1261	0.17	0.41	-2.29	-0.05	0.15	0.40	2.67	137 (9.8%)
Bronchodilator (P)	666	-0.04	0.38	-1.63	-0.24	-0.03	0.16	2.01	103 (13.4%)
Exercise Training	28	0.00	0.35	-0.82	-0.17	0.02	0.14	0.94	3460 (99.2%)
End									
Total	2049	0.07	0.36	-1.39	-0.13	0.05	0.25	2.44	3606 (63.8%)
Bronchodilator (A)	1122	0.11	0.35	-1.39	-0.09	0.10	0.29	2.44	276 (19.7%)
Bronchodilator (P)	551	-0.01	0.36	-1.30	-0.20	-0.03	0.17	2.20	218 (28.3%)
Exercise Training	376	0.07	0.33	-0.97	-0.14	0.03	0.23	1.34	3112 (89.2%)
Isotime									
Total	723	0.09	0.32	-0.79	-0.11	0.05	0.25	1.45	4931 (87.2%)
Bronchodilator (A)	205	0.08	0.30	-0.76	-0.11	0.03	0.23	1.23	1192 (85.3%)
Bronchodilator (P)	154	-0.00	0.29	-0.75	-0.20	0.01	0.15	1.22	615 (80.0%)
Exercise Training	364	0.14	0.33	-0.79	-0.06	0.09	0.30	1.45	3124 (89.6%)

Table S3.13. Baseline CWR Physiologic Variables: \dot{V}_E (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1219	12.97	3.61	5.20	10.30	12.62	15.00	25.00	4435 (78.4%)
Bronchodilator (A)	724	13.02	3.70	5.20	10.40	12.60	15.00	25.00	673 (48.2%)
Bronchodilator (P)	467	12.86	3.49	5.74	10.10	12.50	15.00	24.30	302 (39.3%)
Exercise Training	28	13.71	3.17	7.50	11.67	13.60	15.02	20.72	3460 (99.2%)
End									
Total	2389	40.43	13.18	15.00	30.70	38.80	48.50	89.90	3265 (57.7%)
Bronchodilator (A)	939	43.69	13.38	16.75	34.20	42.00	51.90	89.90	458 (32.8%)
Bronchodilator (P)	548	43.14	13.27	17.42	32.90	41.95	51.80	86.00	221 (28.7%)
Exercise Training	902	35.40	11.23	15.00	27.00	34.00	42.00	85.00	2586 (74.1%)
Isotime									
Total	784	36.21	11.68	15.00	27.80	34.75	42.35	85.00	4870 (86.1%)
Bronchodilator (A)	178	39.02	12.34	16.50	31.22	36.98	46.10	77.90	1219 (87.3%)
Bronchodilator (P)	133	37.46	11.39	15.00	28.50	37.00	44.30	71.00	636 (82.7%)
Exercise Training	473	34.80	11.30	15.00	27.00	33.00	41.00	85.00	3015 (86.4%)

Table S3.14. End of Treatment for CWR Physiologic Variables: \dot{V}_E (L/min)

Baseline	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1153	13.25	3.71	5.00	10.60	12.90	15.50	25.00	4501 (79.6%)
Bronchodilator (A)	709	13.27	3.75	5.00	10.60	12.90	15.40	25.00	688 (49.2%)
Bronchodilator (P)	416	13.10	3.65	5.01	10.40	12.88	15.35	25.00	353 (45.9%)
Exercise Training	28	14.88	3.20	9.95	12.30	15.23	17.44	20.90	3460 (99.2%)
End									
Total	2101	41.86	13.23	15.00	32.00	40.40	50.00	86.80	3553 (62.8%)
Bronchodilator (A)	900	45.34	13.41	15.00	35.80	43.98	54.00	86.80	497 (35.6%)
Bronchodilator (P)	485	43.31	13.43	16.69	33.00	41.80	51.00	86.00	284 (36.9%)
Exercise Training	716	36.51	10.99	15.00	28.75	35.31	43.00	82.30	2772 (79.5%)
Isotime									
Total	929	35.15	11.43	15.00	26.40	33.80	41.70	83.40	4725 (83.6%)
Bronchodilator (A)	168	40.48	12.40	17.80	31.85	38.55	48.25	83.40	1229 (88.0%)
Bronchodilator (P)	115	38.03	12.66	15.00	28.10	37.20	46.60	76.50	654 (85.0%)
Exercise Training	646	33.25	10.36	15.00	25.80	32.00	39.00	73.00	2842 (81.5%)

Table S3.15. Change in CWR Physiologic Variables: \dot{V}_E (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1095	0.30	3.15	-13.00	-1.60	0.20	2.00	17.00	4559 (80.6%)
Bronchodilator (A)	668	0.29	3.15	-13.00	-1.59	0.30	2.00	12.00	729 (52.2%)
Bronchodilator (P)	399	0.26	3.17	-8.30	-1.70	0.10	2.00	17.00	370 (48.1%)
Exercise Training	28	1.17	2.77	-2.93	-0.60	0.83	2.71	10.47	3460 (99.2%)
End									
Total	2080	0.82	5.79	-34.24	-2.20	1.00	4.00	42.00	3574 (63.2%)
Bronchodilator (A)	892	1.64	6.31	-31.00	-2.00	1.80	5.00	42.00	505 (36.1%)
Bronchodilator (P)	479	-0.33	5.81	-34.24	-3.00	-0.10	3.00	23.43	290 (37.7%)
Exercise Training	709	0.56	4.87	-20.00	-2.00	0.60	3.00	28.00	2779 (79.7%)
Isotime									
Total	747	-0.73	5.07	-21.00	-3.67	-0.80	2.30	20.20	4907 (86.8%)
Bronchodilator (A)	168	1.29	5.15	-15.70	-2.40	1.15	3.90	20.20	1229 (88.0%)
Bronchodilator (P)	112	0.42	4.61	-12.53	-2.05	0.29	2.75	17.60	657 (85.4%)
Exercise Training	467	-1.74	4.87	-21.00	-4.90	-2.00	1.00	15.46	3021 (86.6%)

Table S3.16. Baseline CWR Physiologic Variables: $\dot{V}O_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1235	0.30	0.11	0.00	0.23	0.29	0.36	0.80	4419 (78.2%)
Bronchodilator (A)	737	0.30	0.11	0.00	0.23	0.29	0.36	0.80	660 (47.2%)
Bronchodilator (P)	470	0.30	0.11	0.07	0.23	0.29	0.35	0.79	299 (38.9%)
Exercise Training	28	0.30	0.09	0.13	0.24	0.29	0.36	0.47	3460 (99.2%)
End									
Total	3909	1.14	0.37	0.30	0.88	1.10	1.35	2.99	1745 (30.9%)
Bronchodilator (A)	943	1.22	0.40	0.30	0.92	1.18	1.48	2.63	454 (32.5%)
Bronchodilator (P)	548	1.19	0.39	0.33	0.91	1.16	1.44	2.70	221 (28.7%)
Exercise Training	2418	1.10	0.34	0.30	0.86	1.06	1.30	2.99	1070 (30.7%)
Isotime									
Total	783	1.01	0.35	0.33	0.78	0.96	1.19	2.81	4871 (86.2%)
Bronchodilator (A)	178	1.03	0.37	0.34	0.79	0.96	1.21	2.16	1219 (87.3%)
Bronchodilator (P)	133	0.99	0.33	0.37	0.80	0.94	1.18	2.14	636 (82.7%)
Exercise Training	472	1.01	0.35	0.33	0.77	0.95	1.17	2.81	3016 (86.5%)

Table S3.17. End of Treatment for CWR Physiologic Variables: $\dot{V}O_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1163	0.31	0.11	0.00	0.23	0.29	0.37	0.79	4491 (79.4%)
Bronchodilator (A)	718	0.31	0.11	0.00	0.23	0.30	0.37	0.70	679 (48.6%)
Bronchodilator (P)	417	0.30	0.11	0.00	0.23	0.29	0.35	0.79	352 (45.8%)
Exercise Training	28	0.33	0.10	0.16	0.25	0.33	0.39	0.50	3460 (99.2%)
End									
Total	2106	1.18	0.39	0.31	0.89	1.13	1.42	2.91	3548 (62.8%)
Bronchodilator (A)	905	1.23	0.40	0.34	0.93	1.17	1.50	2.64	492 (35.2%)
Bronchodilator (P)	485	1.20	0.40	0.40	0.92	1.15	1.44	2.87	284 (36.9%)
Exercise Training	716	1.11	0.36	0.31	0.84	1.06	1.33	2.91	2772 (79.5%)
Isotime									
Total	915	1.04	0.36	0.30	0.79	0.98	1.24	2.85	4739 (83.8%)
Bronchodilator (A)	168	1.06	0.37	0.37	0.80	0.98	1.25	2.18	1229 (88.0%)
Bronchodilator (P)	115	1.00	0.35	0.35	0.74	0.96	1.20	2.06	654 (85.0%)
Exercise Training	632	1.04	0.36	0.30	0.78	0.98	1.24	2.85	2856 (81.9%)

Table S3.18. Change in CWR Physiologic Variables: $\dot{V}O_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1115	0.01	0.09	-0.49	-0.04	0.01	0.05	0.44	4539 (80.3%)
Bronchodilator (A)	684	0.01	0.09	-0.49	-0.04	0.01	0.05	0.31	713 (51.0%)
Bronchodilator (P)	403	0.00	0.09	-0.38	-0.04	0.00	0.05	0.44	366 (47.6%)
Exercise Training	28	0.03	0.07	-0.13	-0.01	0.04	0.08	0.16	3460 (99.2%)
End									
Total	2087	0.02	0.17	-1.45	-0.07	0.02	0.10	1.17	3567 (63.1%)
Bronchodilator (A)	898	0.01	0.17	-0.67	-0.08	0.01	0.09	1.12	499 (35.7%)
Bronchodilator (P)	479	-0.01	0.19	-1.45	-0.10	-0.01	0.07	1.07	290 (37.7%)
Exercise Training	710	0.05	0.15	-0.50	-0.03	0.05	0.13	1.17	2778 (79.6%)
Isotime									
Total	748	0.00	0.13	-0.52	-0.07	-0.00	0.07	1.22	4906 (86.8%)
Bronchodilator (A)	168	0.01	0.10	-0.23	-0.04	0.01	0.07	0.31	1229 (88.0%)
Bronchodilator (P)	112	0.00	0.13	-0.42	-0.05	-0.01	0.06	0.66	657 (85.4%)
Exercise Training	468	-0.00	0.15	-0.52	-0.08	-0.01	0.08	1.22	3020 (86.6%)

Table S3.19. Baseline CWR Physiologic Variables: $\dot{V}CO_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1035	0.26	0.10	0.00	0.20	0.25	0.31	0.68	4619 (81.7%)
Bronchodilator (A)	639	0.27	0.11	0.00	0.20	0.25	0.32	0.68	758 (54.3%)
Bronchodilator (P)	368	0.25	0.09	0.06	0.19	0.25	0.30	0.68	401 (52.1%)
Exercise Training	28	0.25	0.09	0.10	0.20	0.25	0.29	0.47	3460 (99.2%)
End									
Total	3544	1.12	0.39	0.31	0.83	1.08	1.37	2.81	2110 (37.3%)
Bronchodilator (A)	837	1.24	0.41	0.31	0.95	1.19	1.50	2.58	560 (40.1%)
Bronchodilator (P)	446	1.20	0.41	0.33	0.90	1.16	1.46	2.81	323 (42.0%)
Exercise Training	2261	1.07	0.38	0.32	0.79	1.02	1.29	2.69	1227 (35.2%)
Isotime									
Total	781	0.96	0.36	0.32	0.69	0.89	1.15	2.43	4873 (86.2%)
Bronchodilator (A)	176	1.06	0.39	0.40	0.81	1.00	1.28	2.37	1221 (87.4%)
Bronchodilator (P)	133	1.01	0.36	0.32	0.75	0.99	1.24	2.23	636 (82.7%)
Exercise Training	472	0.90	0.34	0.33	0.66	0.85	1.05	2.43	3016 (86.5%)

Table S3.20. End of Treatment for CWR Physiologic Variables: $\dot{V}CO_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	990	0.27	0.10	0.00	0.20	0.25	0.32	0.68	4664 (82.5%)
Bronchodilator (A)	630	0.27	0.10	0.00	0.20	0.25	0.32	0.66	767 (54.9%)
Bronchodilator (P)	332	0.27	0.11	0.00	0.19	0.25	0.32	0.68	437 (56.8%)
Exercise Training	28	0.27	0.08	0.12	0.21	0.27	0.33	0.46	3460 (99.2%)
End									
Total	1767	1.15	0.41	0.30	0.85	1.11	1.43	2.75	3887 (68.7%)
Bronchodilator (A)	810	1.24	0.40	0.30	0.95	1.19	1.50	2.55	587 (42.0%)
Bronchodilator (P)	397	1.21	0.43	0.34	0.90	1.17	1.48	2.75	372 (48.4%)
Exercise Training	560	0.99	0.35	0.36	0.73	0.92	1.19	2.46	2928 (83.9%)
Isotime									
Total	755	0.95	0.37	0.32	0.69	0.88	1.15	2.81	4899 (86.6%)
Bronchodilator (A)	167	1.09	0.39	0.33	0.81	1.01	1.32	2.27	1230 (88.0%)
Bronchodilator (P)	116	1.04	0.42	0.32	0.76	1.00	1.27	2.81	653 (84.9%)
Exercise Training	472	0.88	0.33	0.33	0.64	0.83	1.03	2.42	3016 (86.5%)

Table S3.21. Change in CWR Physiologic Variables: $\dot{V}CO_2$ (L/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	943	0.01	0.09	-0.59	-0.04	0.01	0.05	0.39	4711 (83.3%)
Bronchodilator (A)	598	0.00	0.09	-0.59	-0.04	0.01	0.05	0.29	799 (57.2%)
Bronchodilator (P)	317	0.01	0.09	-0.36	-0.04	0.01	0.05	0.39	452 (58.8%)
Exercise Training	28	0.02	0.06	-0.09	-0.02	0.00	0.05	0.18	3460 (99.2%)
End									
Total	1746	0.01	0.18	-1.47	-0.08	0.01	0.10	1.47	3908 (69.1%)
Bronchodilator (A)	800	0.00	0.18	-0.90	-0.10	0.00	0.10	0.96	597 (42.7%)
Bronchodilator (P)	390	-0.00	0.23	-1.47	-0.10	-0.01	0.08	1.47	379 (49.3%)
Exercise Training	556	0.03	0.15	-0.52	-0.05	0.02	0.10	1.04	2932 (84.1%)
Isotime									
Total	745	-0.00	0.15	-0.49	-0.08	-0.01	0.06	1.53	4909 (86.8%)
Bronchodilator (A)	166	0.02	0.12	-0.27	-0.05	0.02	0.09	0.43	1231 (88.1%)
Bronchodilator (P)	111	0.02	0.20	-0.49	-0.04	0.00	0.06	1.53	658 (85.6%)
Exercise Training	468	-0.02	0.14	-0.40	-0.10	-0.03	0.05	1.14	3020 (86.6%)

Table S3.22. Baseline CWR Physiologic Variables: V_T (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1265	0.79	0.31	0.27	0.59	0.71	0.93	2.42	4389 (77.6%)
Bronchodilator (A)	755	0.80	0.32	0.28	0.59	0.72	0.95	2.42	642 (46.0%)
Bronchodilator (P)	482	0.77	0.31	0.27	0.58	0.70	0.90	2.29	287 (37.3%)
Exercise Training	28	0.83	0.27	0.44	0.63	0.77	0.99	1.48	3460 (99.2%)
End									
Total	2193	1.35	0.43	0.44	1.02	1.29	1.62	3.18	3461 (61.2%)
Bronchodilator (A)	943	1.41	0.43	0.44	1.10	1.37	1.70	3.18	454 (32.5%)
Bronchodilator (P)	553	1.39	0.45	0.48	1.05	1.33	1.62	3.12	216 (28.1%)
Exercise Training	697	1.24	0.40	0.51	0.94	1.19	1.46	2.88	2791 (80.0%)
Isotime									
Total	787	1.27	0.41	0.47	0.97	1.21	1.52	2.69	4867 (86.1%)
Bronchodilator (A)	178	1.34	0.42	0.59	0.99	1.32	1.62	2.62	1219 (87.3%)
Bronchodilator (P)	136	1.23	0.40	0.47	0.97	1.15	1.47	2.48	633 (82.3%)
Exercise Training	473	1.25	0.40	0.51	0.96	1.19	1.48	2.69	3015 (86.4%)

Table S3.23. End of Treatment for CWR Physiologic Variables: V_T (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1189	0.80	0.31	0.24	0.60	0.74	0.93	2.33	4465 (79.0%)
Bronchodilator (A)	733	0.81	0.31	0.33	0.60	0.74	0.93	2.33	664 (47.5%)
Bronchodilator (P)	428	0.79	0.30	0.24	0.60	0.74	0.93	2.23	341 (44.3%)
Exercise Training	28	0.87	0.26	0.49	0.68	0.83	1.04	1.50	3460 (99.2%)
End									
Total	1906	1.42	0.43	0.39	1.09	1.37	1.70	3.27	3748 (66.3%)
Bronchodilator (A)	908	1.48	0.43	0.55	1.14	1.44	1.78	3.18	489 (35.0%)
Bronchodilator (P)	488	1.40	0.44	0.55	1.08	1.34	1.67	3.27	281 (36.5%)
Exercise Training	510	1.34	0.41	0.39	1.06	1.29	1.56	2.79	2978 (85.4%)
Isotime									
Total	775	1.30	0.39	0.48	1.00	1.24	1.52	2.70	4879 (86.3%)
Bronchodilator (A)	168	1.37	0.41	0.60	1.05	1.30	1.62	2.70	1229 (88.0%)
Bronchodilator (P)	117	1.25	0.40	0.53	0.96	1.18	1.49	2.51	652 (84.8%)
Exercise Training	490	1.29	0.38	0.48	1.00	1.23	1.50	2.68	2998 (86.0%)

Table S3.24. Change in CWR Physiologic Variables: V_T (L)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1147	0.02	0.24	-1.22	-0.09	0.01	0.12	1.34	4507 (79.7%)
Bronchodilator (A)	706	0.01	0.25	-1.22	-0.09	0.01	0.12	1.07	691 (49.5%)
Bronchodilator (P)	413	0.02	0.24	-1.14	-0.08	0.01	0.11	1.34	356 (46.3%)
Exercise Training	28	0.04	0.16	-0.30	-0.03	0.05	0.15	0.42	3460 (99.2%)
End									
Total	1890	0.05	0.22	-0.86	-0.07	0.04	0.16	1.71	3764 (66.6%)
Bronchodilator (A)	900	0.07	0.20	-0.68	-0.05	0.06	0.17	1.02	497 (35.6%)
Bronchodilator (P)	484	-0.01	0.21	-0.86	-0.11	-0.02	0.09	1.71	285 (37.1%)
Exercise Training	506	0.08	0.24	-0.64	-0.06	0.07	0.21	1.68	2982 (85.5%)
Isotime									
Total	743	0.03	0.19	-0.74	-0.08	0.02	0.13	0.82	4911 (86.9%)
Bronchodilator (A)	168	0.03	0.15	-0.42	-0.06	0.02	0.10	0.50	1229 (88.0%)
Bronchodilator (P)	115	-0.00	0.17	-0.74	-0.09	-0.00	0.07	0.55	654 (85.0%)
Exercise Training	460	0.04	0.21	-0.59	-0.09	0.03	0.17	0.82	3028 (86.8%)

Table S3.25. Baseline CWR Physiologic Variables: RR (breaths/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1265	18.37	5.11	6.26	15.00	18.00	21.40	41.30	4389 (77.6%)
Bronchodilator (A)	754	18.34	5.21	6.26	14.64	18.00	21.70	39.00	643 (46.0%)
Bronchodilator (P)	483	18.47	5.01	8.00	15.00	18.00	21.00	41.30	286 (37.2%)
Exercise Training	28	17.63	4.45	10.20	15.15	17.00	20.20	31.70	3460 (99.2%)
End									
Total	2192	30.98	6.98	15.00	26.00	30.00	35.00	58.00	3462 (61.2%)
Bronchodilator (A)	939	31.84	6.99	15.80	27.00	31.00	36.00	55.32	458 (32.8%)
Bronchodilator (P)	554	32.22	7.23	15.30	27.00	32.00	36.00	58.00	215 (28.0%)
Exercise Training	699	28.83	6.26	15.00	24.00	28.00	32.10	51.00	2789 (80.0%)
Isotime									
Total	787	29.27	6.30	15.00	25.00	29.00	33.00	57.00	4867 (86.1%)
Bronchodilator (A)	178	29.74	5.76	15.88	25.87	29.93	33.20	45.12	1219 (87.3%)
Bronchodilator (P)	136	31.23	7.03	16.00	26.05	31.00	35.34	57.00	633 (82.3%)
Exercise Training	473	28.53	6.15	15.00	24.00	28.00	32.00	50.00	3015 (86.4%)

Table S3.26. End of Treatment for CWR Physiologic Variables: RR (breaths/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1192	18.23	5.21	5.00	14.68	18.00	21.90	42.00	4462 (78.9%)
Bronchodilator (A)	737	18.29	5.32	5.00	15.00	18.00	22.00	42.00	660 (47.2%)
Bronchodilator (P)	427	18.13	5.09	7.00	14.00	17.53	21.90	41.50	342 (44.5%)
Exercise Training	28	18.31	4.34	10.00	15.85	18.20	20.70	31.00	3460 (99.2%)
End									
Total	1900	30.70	7.11	15.00	26.00	30.00	35.00	57.00	3754 (66.4%)
Bronchodilator (A)	902	31.64	7.06	15.00	26.64	31.00	36.00	57.00	495 (35.4%)
Bronchodilator (P)	488	32.02	7.22	15.80	27.00	31.00	36.14	56.00	281 (36.5%)
Exercise Training	510	27.77	6.20	15.00	24.00	27.00	31.00	54.70	2978 (85.4%)
Isotime									
Total	775	27.98	6.42	15.00	23.67	27.00	32.00	53.41	4879 (86.3%)
Bronchodilator (A)	168	30.14	6.07	16.75	26.00	30.00	33.44	53.41	1229 (88.0%)
Bronchodilator (P)	116	30.89	7.34	15.00	25.71	30.00	34.97	51.18	653 (84.9%)
Exercise Training	491	26.55	5.86	15.00	22.00	26.00	30.00	50.80	2997 (85.9%)

Table S.27. Change in CWR Physiologic Variables: RR (breaths/min)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1152	-0.11	4.26	-28.00	-2.20	0.00	2.00	22.00	4502 (79.6%)
Bronchodilator (A)	710	-0.12	4.41	-28.00	-2.20	0.00	2.20	22.00	687 (49.2%)
Bronchodilator (P)	414	-0.15	4.10	-19.00	-2.30	0.00	2.00	14.00	355 (46.2%)
Exercise Training	28	0.67	2.64	-5.50	0.95	1.00	2.45	6.00	3460 (99.2%)
End									
Total	1882	-0.41	4.47	-25.00	-3.00	0.00	2.00	20.00	3772 (66.7%)
Bronchodilator (A)	891	-0.18	4.38	-19.00	-3.00	0.00	2.00	20.00	506 (36.2%)
Bronchodilator (P)	485	-0.09	4.27	-22.00	-2.91	0.00	2.20	14.00	284 (36.9%)
Exercise Training	506	-1.11	4.73	-25.00	-4.00	-1.00	2.00	14.00	2982 (85.5%)
Isotime									
Total	744	-1.39	4.94	-22.24	-4.00	-1.00	1.72	21.91	4910 (86.8%)
Bronchodilator (A)	168	0.40	4.74	-21.26	-2.00	0.89	2.68	21.91	1229 (88.0%)
Bronchodilator (P)	115	0.02	4.93	-22.00	-2.88	0.38	3.00	11.89	654 (85.0%)
Exercise Training	461	-2.39	4.76	-22.24	-5.00	-2.00	0.22	13.00	3027 (86.8%)

Table S3.28. Baseline CWR Physiologic Variables: SpO₂ (%)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	3385	93.92	3.54	85.00	92.00	95.00	97.00	100.00	2269 (40.1%)
Bronchodilator (A)	1008	96.18	2.35	86.00	95.00	96.00	98.00	100.00	389 (27.8%)
Bronchodilator (P)	580	95.99	2.37	85.00	95.00	96.00	98.00	100.00	189 (24.6%)
Exercise Training	1797	91.99	3.28	85.00	90.00	92.00	95.00	100.00	1691 (48.5%)
End									
Total	3153	94.25	3.22	76.00	93.00	95.00	96.00	100.00	2501 (44.2%)
Bronchodilator (A)	666	93.94	3.82	77.00	92.00	95.00	96.00	100.00	731 (52.3%)
Bronchodilator (P)	492	93.78	3.86	82.00	91.00	95.00	97.00	100.00	277 (36.0%)
Exercise Training	1995	94.47	2.79	76.00	93.00	95.00	96.00	100.00	1493 (42.8%)
Isotime									
Total	476	94.06	3.69	78.00	92.00	95.00	96.68	100.00	5178 (91.6%)
Bronchodilator (A)	223	94.41	3.59	78.00	93.00	95.00	97.00	100.00	1174 (84.0%)
Bronchodilator (P)	183	94.27	3.31	83.00	92.00	95.00	96.93	100.00	586 (76.2%)
Exercise Training	70	92.39	4.50	78.50	91.00	94.00	96.00	100.00	3418 (98.0%)

Table S3.29. End of Treatment for CWR Physiologic Variables: SpO₂ (%)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1731	96.06	2.37	85.00	95.00	96.00	98.00	100.00	3923 (69.4%)
Bronchodilator (A)	997	96.22	2.33	86.00	95.00	96.00	98.00	100.00	400 (28.6%)
Bronchodilator (P)	528	96.00	2.42	85.00	95.00	96.00	98.00	100.00	241 (31.3%)
Exercise Training	206	95.42	2.31	86.00	94.00	96.00	97.00	100.00	3282 (94.1%)
End									
Total	1314	93.53	4.24	75.00	92.00	94.20	96.00	100.00	4340 (76.8%)
Bronchodilator (A)	645	94.03	3.76	77.00	92.00	95.00	97.00	100.00	752 (53.8%)
Bronchodilator (P)	426	93.96	3.77	79.00	92.00	95.00	97.00	100.00	343 (44.6%)
Exercise Training	243	91.48	5.46	75.00	89.00	93.00	95.00	99.60	3245 (93.0%)
Isotime									
Total	496	93.53	4.36	76.00	92.00	94.50	96.32	100.00	5158 (91.2%)
Bronchodilator (A)	215	94.23	3.64	78.93	92.00	95.00	97.00	100.00	1182 (84.6%)
Bronchodilator (P)	167	94.43	3.47	79.00	92.40	95.00	97.00	100.00	602 (78.3%)
Exercise Training	114	90.86	5.58	76.00	87.00	93.00	95.00	100.00	3374 (96.7%)

Table S3.30. Change in CWR Physiologic Variables: SpO₂ (%)

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Rest									
Total	1686	0.01	1.98	-12.00	-1.00	0.00	1.00	10.00	3968 (70.2%)
Bronchodilator (A)	964	0.04	1.93	-8.00	-1.00	0.00	1.00	9.00	433 (31.0%)
Bronchodilator (P)	516	-0.02	2.16	-12.00	-1.00	0.00	1.00	10.00	253 (32.9%)
Exercise Training	206	-0.03	1.72	-5.00	-1.00	0.00	1.00	6.00	3282 (94.1%)
End									
Total	1303	-0.10	2.78	-18.00	-1.00	0.00	1.00	14.00	4351 (77.0%)
Bronchodilator (A)	636	0.12	2.62	-12.00	-1.00	0.00	1.00	14.00	761 (54.5%)
Bronchodilator (P)	425	0.08	2.70	-16.00	-1.00	0.00	1.00	13.00	344 (44.7%)
Exercise Training	242	-0.98	3.11	-18.00	-2.00	0.00	1.00	6.00	3246 (93.1%)
Isotime									
Total	437	-0.03	2.61	-15.00	-1.00	0.00	1.00	13.00	5217 (92.3%)
Bronchodilator (A)	207	-0.07	2.65	-8.00	-1.33	0.00	1.00	13.00	1190 (85.2%)
Bronchodilator (P)	160	-0.09	2.67	-15.00	-1.00	0.00	1.28	7.00	609 (79.2%)
Exercise Training	70	0.26	2.35	-4.00	-1.00	0.00	1.00	7.50	3418 (98.0%)

TABLES S4.1 – S4.4

6 Minute Walk Test

Table S4.1. 6MWT: WD (meters)*

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Exercise Training	2354	440.34	109.00	22.00	370.00	446.00	518.00	770.00	1134 (32.5%)
End of Treatment									
Exercise Training	2333	465.55	110.84	55.00	395.00	467.00	542.00	816.00	1155 (33.1%)
Change									
Exercise Training	2288	24.93	53.48	-236.0	-3.00	23.00	52.00	309.00	1200 (34.4%)

*None of the subjects in bronchodilator studies performed 6MWT

Table S4.2. 6MWT End Exercise: Borg Dyspnea*

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Exercise Training	1827	4.77	2.16	0.00	3.00	4.00	7.00	10.00	1661 (47.6%)
End of Treatment									
Exercise Training	80	3.56	2.22	0.00	2.00	3.00	5.00	9.00	3408 (97.7%)
Change									
Exercise Training	73	-0.38	2.13	-6.00	-1.00	0.00	1.00	5.00	3415 (97.9%)

*None of the subjects in bronchodilator studies performed 6MWT

Table S4.3. 6MWT End Exercise: Borg Leg Fatigue*

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Exercise Training	1827	4.07	2.34	0.00	3.00	4.00	5.00	10.00	1661 (47.6%)
End of Treatment									
Exercise Training	78	2.32	1.95	0.00	1.00	2.00	4.00	7.00	3410 (97.8%)
Change									
Exercise Training	71	-0.63	2.07	-7.00	-2.00	0.00	0.50	5.00	3417 (98.0%)

*None of the subjects in bronchodilator studies performed 6MWT

Table S4.4. 6MWT End Exercise: HR (beats/min)*

Intervention	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Exercise Training	1787	110.31	15.68	70.00	100.00	110.00	120.00	174.00	1701 (48.8%)
End of Treatment									
Exercise Training	67	116.03	16.29	79.00	107.00	114.00	128.00	155.00	3421 (98.1%)
Change									
Exercise Training	62	1.18	13.69	-42.00	-6.00	0.00	12.00	36.00	3426 (98.2%)

*None of the subjects in bronchodilator studies performed 6MWT

TABLE S5

St. George's Respiratory Questionnaire

Table S5. SGRQ (Exercise Training Only)*

	N	Mean	SD	Minimum	1st Q	Median	3rd Q	Maximum	Missing n(%)
Baseline									
Total Score	2662	53.89	19.28	0.00	43.32	56.62	67.59	94.12	2992 (52.92%)
Activity Domain	2662	70.64	23.04	0.00	59.47	78.98	86.60	100.00	2992 (52.92%)
Impact Domain	2662	43.41	20.51	0.00	29.44	44.16	58.27	96.17	2992 (52.92%)
Symptom Domain	2662	56.97	22.98	0.00	41.92	59.69	74.50	100.00	2992 (52.92%)
End of Treatment									
Total Score	2166	48.62	16.77	2.02	36.52	49.16	60.92	94.93	3488 (61.69%)
Activity Domain	676	69.99	18.67	0.00	59.46	72.83	85.87	100.00	4978 (88.04%)
Impact Domain	676	38.41	18.40	0.00	24.20	36.57	51.71	92.23	4978 (88.04%)
Symptom Domain	676	50.42	21.41	0.00	34.46	50.26	66.54	97.48	4978 (88.04%)
Change									
Total Score	2134	-5.41	16.25	-62.75	-13.96	-5.67	2.13	90.35	3520 (62.26%)
Activity Domain	674	-8.19	15.79	-74.64	-16.30	-6.63	0.00	38.00	4980 (88.08%)
Impact Domain	674	-12.35	17.28	-63.50	-21.90	-10.87	-1.08	42.17	4980 (88.08%)
Symptom Domain	674	-10.50	21.61	-91.20	-23.17	-8.91	3.69	55.47	4980 (88.08%)

*None of the subjects in bronchodilator studies included SGRQ

