Online Supplement
Physical Activity and Symptom Burden in COPD: The Canadian Obstructive Lung Disease Study

Loes Oostrik, MSc[1] Jean Bourbeau, MD, PhD[2,3,4] Dany Doiron, PhD[2,3] Bryan Ross, MD[4] Pei Zhi-Li[2,3] Shawn D. Aaron, MD, PhD[5] Kenneth R. Chapman, MD, PhD [6] Paul Hernandez, MD, PhD [7] François Maltais, PhD[8] Darcy D. Marciniuk, MD, PhD [9] Denis O'Donnell, MD[10] Wan C. Tan MD, PhD [11] Don D. Sin, MD, PhD[11] Brandie Walker, MD, PhD [12] Tania Janaudis-Ferreira, PhD[2,3,13]

[1] Physical Therapy Sciences, Program in Clinical Health Sciences, University Medical Center Utrecht, Utrecht University, Netherlands

[2] Centre for Outcomes Research and Evaluation, Research Institute of the McGill University Health Centre, Montreal, Quebec, Canada

[3] Respiratory Epidemiology and Clinical Research Unit, Research Institute, McGill University Health Center, Montreal, Quebec, Canada

[4] Montreal Chest Institute, McGill University Health Centre, Montreal, Quebec, Canada

[5] Ottawa Hospital Research Institute, Ottawa University, Ottawa, Canada

[6] Toronto General Hospital Research Institute, University of Toronto, Toronto, Canada

[7] Division of Respirology, Faculty of Medicine, Dalhousie University, Halifax, Canada

[8] Institut Universitaire de Cardiologie et de Pneumologie de Québec, Université Laval, Quebec, Canada

[9] Respiratory Research Centre, University of Saskatchewan, Saskatoon, Canada

[10] Division of Respiratory and Critical Care Medicine, Queen's University, Kingston, Canada

[11] Centre for Heart Lung Innovation, University of British Columbia, St Paul's Hospital, Vancouver, Canada

[12] Department of Medicine, University of Calgary, Alberta, Canada

[13] School of Physical and Occupational Therapy, McGill University, Montreal, Quebec, Canada

Table S-I The distribution of normative MVPA by sex and age.

Table S-II The distribution of MVPA by the four sub-groups in frequency and duration per week.

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Table S-VI Factors associated with MVPA in the Stepwise Multivariate Model for participants with and without COPD in frequency and duration per week.

Table S-I The distribution of normative MVPA by sex and age.		
	Males **Energy expenditure**	**Females** **Energy expenditure**
Total	**N=194** 3289.8 ± 2614.4	**N=174** 1871.4 ± 1892.1
Age 40-49	**N=9** 3528.3 ± 1666.6	**N=9** 2444.5 ± 2197.5
Age 50-59	**N=39** 3379.8 ± 2906.3	**N=39** 2057.7 ± 1761.4
Age 60-69	**N=76** 3400.4 ± 2667.3	**N=70** 2159.2 ± 2215.9
Age 70-79	**N=54** 3319.0 ± 2560.6	**N=40** 1262.6 ± 1212.2
Age≥80	**N=16** 2312.1 ± 2277.4	**N=16** 1357.6 ± 1583.2

Abbreviations: MVPA=Moderate to Vigorous Physical Activity in kcal/week of energy expenditure.

Table S-II The distribution of MVPA by the four sub-groups in frequency and duration per week.		
	Duration (hours/week)	**Frequency (times/week)**
Healthy N=347	7.4 ± 6.9[a]	7.8 ± 6.8[a]
At Risk N=474	7.5 ± 7.3[b]	7.8 ± 7.2[b]
GOLD 1 N=406	7.6 ± 6.6[c]	8.1 ± 7.0[c]
GOLD 2 n=287	6.1 ± 6.7	6.7 ± 8.2
Adjusted overall P-value	0.002*	0.008*

Abbreviations: MVPA=Moderate to Vigorous Physical Activity in kcal/week of energy expenditure

Adjusted P-values for age, sex, BMI and any musculoskeletal disorders.

[a,b,c] Means with same letters are significantly different from each other after Turkey adjustment for multiple comparisons ($p<0.05$).

Table S-III The distribution of MVPA according to symptom burden in COPD in frequency and duration per week.			
	High symptom burden	**Low symptom burden**	
Total COPD			**P-value**
Duration (hours/week) **CAT**	4.7 ± 5.9	7.8 ± 6.8	<0.001*
Frequency (times/week) **CAT**	5.3 ± 6.2	8.3 ± 7.8	<0.001*
COPD 1			
Duration (hours/week) **CAT**	5.9 ± 6.4	8.1 ± 6.6	0.055
Frequency (times/week) **CAT**	6.3 ± 6.2	8.6 ± 7.1	0.038*
COPD 2			
Duration (hours/week) **CAT**	2.8 ± 3.5	4.1 ± 5.1	0.288
Frequency (times/week) **CAT**	5.2 ± 6.7	7.9 ± 9.1	0.258

Abbreviations: CAT= COPD assessment score; MVPA=Moderate to Vigorous Physical Activity, in kcal/week of energy expenditure.

Adjusted parameter estimates and 95% CI were obtained by multiple linear regression model via GLM procedure, adjusted for age, sex, BMI, smoking status and any musculoskeletal disorders.

Table S-IV The distribution of MVPA according to diagnostic status in COPD in frequency and duration per week.

	Diagnosed	Undiagnosed	
Total COPD			**P-value**
Duration (hours/week)	5.3 ± 5.8	7.4 ± 6.9	0.002*
Frequency (times/week)	5.3 ± 5.6	8.1 ± 7.9	<0.001*
mild COPD			
Duration (hours/week)	7.7 ± 6.5	8.3 ± 7.2	0.185
Frequency (times/week)	7.0 ± 5.7	8.3 ± 7.2	0.185
Moderate COPD			
Duration (hours/week)	3.4 ± 3.9	2.6 ± 4.2	0.001*
Frequency (times/week)	4.7 ± 5.7	8.0 ± 9.3	0.024*

Abbreviations: MVPA=Moderate to Vigorous Physical Activity, in kcal/week of energy expenditure.

Adjusted parameter estimates and 95% CI were obtained by multiple linear regression model via GLM procedure, adjusted for age, sex, BMI, smoking status and any musculoskeletal disorders.

Table S-V The distribution of MVPA according to symtpom burden in undiagnosed participants; post hoc analysis.

	High symptom burden	Low symptom burden	
Total COPD			**P-value**
Energy expenditure **CAT**	1796.4 ± 2251.2	2652.1 ± 2469.1	0.065
Duration (hours/week) **CAT**	5.4 ± 6.5	7.9 ± 6.9	0.052
Frequency (times/week) **CAT**	6.1 ± 6.7	8.6 ± 8.2	0.073
COPD 1			
Energy expenditure **CAT**	1863.5 ± 1997.4	2615.9 ± 2275.2	0.097
Duration (hours/week) **CAT**	5.8 ± 6.0	8.0 ± 6.8	0.154
Frequency (times/week) **CAT**	6.3 ± 5.9	8.7 ± 7.4	0.087
COPD 2			
Energy expenditure **CAT**	1736.0 ± 2472.8	2730.9 ± 2854.1	0.542
Duration (hours/week) **CAT**	2.6 ± 3.6	3.3 ± 5.9	0.975
Frequency (times/week) **CAT**	6.5 ± 7.6	8.6 ± 9.9	0.985

Abbreviations: CAT=COPD assessment score; MVPA=Moderate to Vigorous Physical Activity, in kcal/week of energy expenditure.
Adjusted parameter estimates and 95% CI were obtained by multiple linear regression model via GLM procedure, adjusted for age, sex, BMI, smoking status and any musculoskeletal disorders.

Table S-VI Factors associated with MVPA in the Stepwise Multivariate Model for participants with and without COPD in frequency and duration per week.				
	COPD		Non-COPD	
	Duration (hours/week)	Frequency (times/week)	Duration (hours/week)	Frequency (times/week)
Covariates	β (95% CI)	β (95% CI)	β (95% CI)	β (95% CI)
Age — per 1-year increase	-0.10 (-0.15, -0.04)	-0.15 (-0.20, -0.09)	0.02 (-0.04, 0.08)	0.08 (0.01, 0.15)
Sex — female vs. male	-0.18 (-1.46, 1.10)	-0.66 (-1.87, 0.54)	-1.03 (-2.13, 0.08)	0.92 (-0.55, 2.40)
BMI — per increase of 1 point	-0.04 (-0.14, 0.07)	0.02 (-0.10, 0.15)	0.08 (-0.03, 0.19)	0.01 (-0.10, 0.12)
Cigarette smoking pack years — per increase of 1 point	-0.03 (-0.05, -0.01)	-0.04 (-0.06, -0.01)	-0.02 (-0.05, 0.01)	-0.02 (-0.04, 0.01)
Possible predictors				
CAT score — per increase of 2 point	-0.19 (-0.36, -0.02)	-0.26 (-0.45, -0.06)	-0.26 (-0.49, -0.03)	
FEV_1, — per 100-ml decrease	-0.14 (-0.23, -0.05)			
Peak VO_2 — per decrease of 1 point			-0.25 (-0.34, -0.16)	-0.23 (-0.32, -0.14)
Exercise habits				
> 3 / week	REF	REF	REF	REF
≤ 3 / week	-3.13 (-4.40, -1.87)	-4.18 (-5.67, -2.69)	-2.15 (-3.43, -0.88)	-3.51 (-4.79, -2.23)
≤1-3/ months	-4.05 (-5.52, -2.58)	-4.56 (-6.30, -2.83)	-4.35 (-5.96, -2.74)	-5.29 (-6.90, -3.68)
No exercise	-5.28 (-7.08, -3.48)	-7.32 (-9.45, -5.20)	-4.42 (-6.44, -2.41)	-5.45 (-7.47, -3.43)
Season at visit				
Spring	REF	REF	REF	
Summer	0.63 (-0.77, 2.03)	1.84 (0.18, 3.50)	0.92 (-0.45, 2.29)	
Autumn	-1.62 (-2.92, -0.31)	-1.15 (-2.69, 0.40)	0.43 (-0.96, 1.82)	
Winter	-2.58 (-3.85, -1.31)	-0.79 (-2.29, 0.71)	-1.86 (-3.31, -0.41)	

Abbreviations: CAT= COPD assessment score; COPD=Chronic Obstructive Pulmonary Disease; FEV1= forced expiratory volume in 1 second; MVPA= moderate to vigorous physical activity, in kcal/week of energy expenditure; VO_2=Volume Oxygen
For the multivariate analyses, GLMSELECT procedure with ELECTION=STEPWISE(select=SL) option in the MODEL statement to select the final variables.
All variables that were explored in the univariate analyses with $p<0.05$ were considered in the multivariate model, and age, sex, BMI and smoking packing years as covariates included in all models