

European Respiratory Society Annual Congress 2013

Abstract Number: 4286

Publication Number: 1981

Abstract Group: 1.2. Rehabilitation and Chronic Care

Keyword 1: Physical activity **Keyword 2:** COPD - management **Keyword 3:** Rehabilitation

Title: Objective moderate-to-vigorous physical activity in 1064 patients with COPD after stratification for gender, FEV₁ and BMI

Rafael 27414 Mesquita rafaelmesquita14@ymail.com^{1,2}, Fabio 27415 Pitta fabiopitta@uol.com.br², David 27416 Donaire-Gonzalez ddonaire@creal.cat³, Brenda M. 27417 Deering brendadeering@beaumont.ie⁴, Mehul 27418 Patel m.patel2@rbht.nhs.uk⁵, Katy E. 27449 Mitchell katy.mitchell@uhl-tr.nhs.uk⁶, Jennifer 27450 Alison jennifer.alison@sydney.edu.au⁷, Arnoldus J.R. 27451 van Gestel vrns@zhaw.ch⁸, Stefanie 27452 Zogg Stefanie.Zogg@usb.ch⁹, Judith 27464 Garcia-Aymerich jgarcia@creal.cat³, Kylie 27473 Hill K.Hill@curtin.edu.au^{10,11}, Elisabeth 27474 Romme lisette.romme@catharinaziekenhuis.nl¹², Samantha 27476 Kon s.kon@rbht.nhs.uk⁵, Paul 27478 Albert Paul.Albert@liverpool.ac.uk¹³, Benjamin 27480 Waschki B.Waschki@pulmoresearch.de¹⁴, Dinesh 27486 Shrikrishna dinesh.shrikrishna@nhs.net⁵, Sally J. 27493 Singh sally.singh@uhl-tr.nhs.uk⁶, Nicholas S. 27495 Hopkinson n.hopkinson@imperial.ac.uk⁵, David 27496 Miedinger david.miedinger@unibas.ch⁹, Christine 27513 Jenkins christine.jenkins@sydney.edu.au¹⁵, Michael I. 27517 Polkey m.polkey@rbh.nthames.nhs.uk⁵, Sue C. 27519 Jenkins S.Jenkins@curtin.edu.au¹¹, William D.-C. 27538 Man W.Man@rbht.nhs.uk⁵, Christian F. 27549 Clarenbach Christian.Clarenbach@usz.ch⁸, Nidia A. 27551 Hernandez nyhernandes@gmail.com², David R. 27556 Hillman David.Hillman@health.wa.gov.au¹⁶, Karina C. 27558 Furlanetto ka_furlanetto@hotmail.com², Zoe 27559 McKeough zoe.mckeough@sydney.edu.au¹⁷, Sally 27565 Watts swat9574@uni.sydney.edu.au¹⁷, Li Whye 27568 Cindy Ng l.ng8@student.curtin.edu.au¹¹, Dina 27575 Brooks Dina.Brooks@utoronto.ca¹⁰, Peter R. 27586 Eastwood Peter.Eastwood@health.wa.gov.au¹⁶, Thaís 27592 Sant'Anna thaisjps@yahoo.com.br², Kenneth 27595 Meijer kenneth.meijer@maastrichtuniversity.nl¹⁸, Selina 27596 Dürr Selina.Duerr@usb.ch⁹, Malcolm 27601 Kohler Malcolm.Kohler@usz.ch⁸, Vanessa S. 27613 Probst vanessaprobst@uol.com.br², Ruth M. 27620 Tal-Singer Ruth.M.Tal-Singer@gsk.com¹⁹, Jörg Daniel 27621 Leuppi leuppij@uhbs.ch⁹, Peter M.A. 27622 Calverley pmacal@liverpool.ac.uk¹³, Frank W. 27627 Smeenk frank.smeenk@catharinaziekenhuis.nl¹², Julie 27630 Yates julie.c.yates@gsk.com²⁰, Richard W. 27632 Costello rcostello@rcsi.ie⁴, Roger 27635 Goldstein Roger.Goldstein@westpark.org¹⁰, Helgo 27636 Magnussen magnussen@pulmoresearch.de¹⁴, Emiel F.M. 27643 Wouters e.wouters@mumc.nl^{1,21}, Richard 27644 ZuWallack RZuWalla@stfranciscare.org²², Henrik 27645 Watz H.Watz@pulmoresearch.de¹⁴ and Martijn A. 27646 Spruit martijnspruit@ciro-horn.nl¹. ¹ Program Development Centre, Center of Expertise for Chronic Organ Failure (CIRO+), Horn, Netherlands ; ² Laboratório De Pesquisa Em Fisioterapia Pulmonar (LFIP), Departamento De Fisioterapia, Universidade Estadual De Londrina (UEL), Londrina, Brazil ; ³ Center for Research in Environmental Epidemiology, (CREAL), Barcelona, Spain ; ⁴ Department of Respiratory Medicine, Beaumont Hospital, Dublin, Ireland ; ⁵ NIHR Respiratory Biomedical Research Unit, Royal Brompton & Harefield NHS Foundation Trust and

Imperial College, London, United Kingdom ;⁶ NIHR CLAHRC-LNR Pulmonary Rehabilitation Research Group, University Hospitals, Leicester, United Kingdom ;⁷ Physiotherapy Department, Royal Prince Alfred Hospital, Sydn, NSW, Australia ;⁸ Pulmonary Division, University Hospital, Zurich, Switzerland ;⁹ Internal Medicine, University Hospital, Basel, Switzerland ;¹⁰ Respiratory Medicine, West Park Healthcare Centre, Toronto, Canada ;¹¹ School of Physiotherapy and Curtin Health Innovation Research Institute, Curtin University, Perth, WA, Australia ;¹² Department of Respiratory Medicine, Catharina Hospital, Eindhoven, Netherlands ;¹³ School of Ageing and Chronic Disease, University Hospital Aintree, Liverpool, United Kingdom ;¹⁴ Pulmonary Research Institute at Hospital Grosshansdorf, Member of the German Centre for Lung Research, Grosshansdorf, Germany ;¹⁵ Woolcock Institute of Medical Research, The University of Sydney, Sydney, Camperdown, Australia ;¹⁶ Department of Pulmonary Physiology, Sir Charles Gairdner Hospital, Perth, WA, Australia ;¹⁷ Clinical and Rehabilitation Sciences, The University of Sydney, Sydney, NSW, Australia ;¹⁸ Department of Human Movement Science, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, Netherlands ;¹⁹ Respiratory CEDD Discovery Medicine, GlaxoSmithKline, King of Prussia, PA, United States ;²⁰ GlaxoSmithKline Research and Development, Research Triangle Park, NC, United States ;²¹ Department of Respiratory Medicine, Maastricht University Medical Centre (MUMC+), Maastricht, Netherlands and ²² Department of Pulmonary and Critical Care, Saint Francis Hospital and Medical Center, Hartford, CT, United States .

Body: Background: Physical inactivity in COPD is associated with poor outcomes. Therefore, it is important to understand the determinants of moderate-to-vigorous physical activity (MVPA) in COPD. We aimed to assess the mean level of MVPA after stratification for gender, forced expiratory volume in the first second (FEV₁) and body-mass index (BMI). Methods: In 1064 COPD subjects (716 men; age: 67±8 years; BMI: 27±6 kg•m⁻²; FEV₁: 50±21 % predicted) from 14 centers, MVPA time was assessed using the SenseWear Armband activity monitor for ≥4 days. Gender, FEV₁ and BMI were used for stratification. Results: In total, 6300 days with MVPA data were obtained, with a median (IQR) MVPA time of 27 (11-59) min•day⁻¹. 47% of the subjects had a MVPA time ≥30 min•day⁻¹. Men had a higher MVPA time than women (29 (12-63) versus 24 (9-52) min•day⁻¹, respectively; p=0.002). Figure 1 presents the mean time in MVPA after stratification for GOLD classes and BMI in men (A) and women (B).

Conclusions: This multicenter study showed that MVPA time generally is BMI-dependent (higher BMI results in lower MVPA) and GOLD-dependent (higher GOLD results in lower MVPA) in men and women with COPD.