European Respiratory Society
Annual Congress 2012

Abstract Number: 7166

Publication Number: P601

Abstract Group: 1.2. Rehabilitation and Chronic Care

Keyword 1: COPD - management **Keyword 2:** Exercise **Keyword 3:** Skeletal muscle

Title: The minimal clinically important difference (MCID) for the six minute walk (6MW) test in COPD in relation to death

Prof. Michael 586 Polkey m.polkey@rbht.nhs.uk MD [1], Dr. Martijn 611 Spruit martijnspruit@ciro-horn.nl [2], Dr. Lisa 612 Edwards lisa.d.edwards@gsk.com [3], Dr. Michael 613 Watkins michael.l.watkins@gsk.com [3], Dr. Vincent 614 Pinto-Plata VPinto@copdnet.org MD [4], Prof. Jørgen 615 Vestbo jorgen.vestbo@manchester.ac.uk MD [5], Prof. Peter 616 Calverley pmacal@liverpool.ac.uk MD [6], Dr. Ruth 617 Tal-Singer Ruth.M.Tal-Singer@gsk.com [7], Prof. Alvar 618 Agusti Alvar.Agusti@clinic.ub.es MD [8], Prof. Per 619 Bakke per.bakke@med.uib.no MD [9], Dr. Harvey 620 Coxson harvey.coxson@vch.ca MD [10], Prof. David 621 Lomas dal16@cam.ac.uk MD [11], Prof. Dr William 622 MacNee w.Macnee@ed.ac.uk MD [12], Prof. Stephen 623 Rennard srennard@unmc.edu MD [13], Dr. Edwin 624 Silverman ed.silverman@channing.harvard.edu MD [14], Dr. Bruce 625 Miller bruce.e.miller@gsk.com [7], Dr. Courtney 626 Crim courtney.c.crim@gsk.com [3], Dr. Julie 627 Yates julie.c.yates@gsk.com [3], Prof. Emiel 628 Wouters e.wouters@mumc.nl MD [2] and Prof. Bartholeme 629 Celli bcelli@copdnet.org MD [4]. [1] Consultant Physician, Royal Brompton Hospital, London, United Kingdom, SW3 6NP ; [2] Program Development Centre, CIRO+, a Centre of Expertise for Chronic Organ Failure, Horn, Netherlands ; [3] GSK, GlaxoSmithKline, Research Triangle Park,, NC, United States ; [4] Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States ; [5] Respiratory Medicine, University of Manchester, United Kingdom ; [6] Department of Respiratory Medicine, School of Clinical Science, University of Liverpool, United Kingdom ; [7] Galaxy Initiative, GlaxoSmithKline, King of Prussia, PA, United States ; [8] Institut del Tòrax, Hospital Clínic, IDIBAPS, CIBER Enfermedades Respiratorias and Fundación Caubet-Cimera, Barcelona, Spain ; [9] Institute of Medicine, University of Bergen, Norway ; [10] Department of Radiology, Vancouver General Hospital, University of British Columbia, Vancouver, BC, Canada ; [11] Department of Medicine, Cambridge Institute for Medical Research, University of Cambridge, United Kingdom ; [12] ELEGI Colt Research Labs, University of Edinburgh/MRC Centre for Inflammation Research, The Queen's Medical Research Institute, Edinburgh, United Kingdom ; [13] Division of Pulmonary, Critical Care, Allergy and Sleep Medicine, University of Nebraska Medical Center, Omaha, NE, United States and [14] Channing Laboratory, Brigham & Women's Hospital, Boston, MA, United States .

Body: Introduction: The 6MW is used to assess interventions in COPD but existing estimates of the MCID for have been derived from narrow cohorts where a non-blinded intervention, for example pulmonary rehabilitation, have been applied. Objective: To define the MCID for 6MW distance in an unselected population. Methods: Data from the ECLIPSE cohort were used. Briefly 2112 patients were prospectively followed for 3 years in a multicentre study. We defined an index event as death or first hospitalisation and

calculated the change in 6MW (Δ6MW) in the last 12 month period before the event occurred. If a patient did not have an event the last 12 month change was used. We also related Δ6MW to commonly used outcome measures in COPD; FEV_1 and St Georges Respiratory Questionnaire (SGRQ-C). Results: Of the subjects with Δ6MW, 94 patients died and 323 were hospitalised. 6MW fell by mean (SD) 29.7 (82.9)m more in those who died than survivors ($p<0.001$). No significant difference in Δ6MW was observed in those who had a first hospitalisation than those who did not. Cox proportional hazard modelling showed that a Δ6MW of more than –30m conferred a hazard ratio of 1.93 (95% CI: 1.29, 2.90; $p=0.001$) for death. Weak relationships only were observed between Δ6MW and ΔFEV_1 or Δ SGRQ. Conclusions: A fall in 6MW of 30m or more is associated with increased risk of death in patients with COPD and therefore represents a clinically significant MCID for this test. The modest relationships between Δ6MW and ΔFEV_1 or Δ SGRQ suggest that anchor based methods for determining MCID are context dependent. Funded by GSK (SCO104960; NCT00292552).