# The COPD Assessment Test and the modified Medical Research Council scale are not equivalent when related to the maximal exercise capacity in COPD patients.

Roberta Pisi1, Marina Aiello1, Luigino Calzetta1\*, Annalisa Frizzelli1, Panagiota Tzani1, Giuseppina Bertorelli1 and Alfredo Chetta1

1Department of Medicine and Surgery, Respiratory Disease and Lung Function Unit, University of Parma, Italy

\*Correspondence: Luigino Calzeßtta, Department of Medicine and Surgery, Respiratory Disease and Lung Function Unit, University of Parma, Viale A. Gramsci, 14 – 43126 Parma, Italy; Tel: +39 06 7259 6666; Email: luigino.calzetta@unipr.it

# Material and Methods

## CPET

Peak work load and peak VO2 were recorded as the mean value in watts and VO2 (mL/kg/min) during the last 20 s of the test. Peak VO2 was expressed as an absolute value in mL/min and as percent of the predicted value for analysis. The Metabolic Equivalents of Task (METs) were also calculated by dividing peak VO2 in mL/kg/min by 3.5 mL/kg/min.

Changes in operational lung volumes were assessed every 2 min during exercise and at peak exercise, taking the IC measured at rest as the baseline (in L). Assuming that TLC remains constant during exercise in COPD patients,1 changes in IC reflect changes in end-expiratory lung volume.

Both dyspnea and leg fatigue induced by CPET were measured at the end of the exercise by a 0-100 visual analogue scale (VAS). VAS dyspnea rating and VAS leg fatigue rating were then divided by the maximum work load for analysis, i.e. VAS/Wdyspnea and VAS/Wfatigue (in mm/watts).

# References

1. Stubbing DG, Pengelly LD, Morse JL, Jones NL. Pulmonary mechanics during exercise in subjects with chronic airflow obstruction. *Journal of applied physiology: respiratory, environmental and exercise physiology.* 1980;49(3):511-515.