

European Respiratory Society Annual Congress 2012

Abstract Number: 1883

Publication Number: P4438

Abstract Group: 4.1. Clinical physiology and Exercise

Keyword 1: Exercise **Keyword 2:** COPD - management **Keyword 3:** Interstitial lung disease

Title: Association of 6-minute walk distance and maximal work capacity assessed by ergometry in patients with obstructive and restrictive lung diseases

Dr. Uta 14278 Ochmann uta.ochmann@med.uni-muenchen.de MD ¹, Dr. Nicola 14279 Kotschy-Lang dr.kotschy-lang@klinik-falkenstein.de MD ², Dr. Wolfgang 14280 Raab wolfgang.raab@vbg.de MD ³, Mrs. Jessica 14281 Kellberger jessica.kellberger@med.uni-muenchen.de ¹, Prof. Dr Dennis 14282 Nowak dennis.nowak@med.uni-muenchen.de MD ¹ and Dr. Rudolf 14346 Jörres rudolf.joerres@med.uni-muenchen.de ¹. ¹ Institute of Occupational, Social and Environmental Medicine, Ludwig-Maximilians-University, Munich, Germany ; ² Rehabilitation Clinic, Rehabilitation Clinic Falkenstein, Falkenstein, Germany and ³ Rehabilitation Clinic, Rehabilitation Clinic Bad Reichenhall, Bad Reichenhall, Germany .

Body: Background and Objective In patients with chronic lung diseases work load for endurance training is calculated from maximal load. If this is not known, it might be predicted on the basis of 6-minute walk distance (6MWD). We addressed the reliability of such prediction. Methods Within a longitudinal clinical study on the efficacy of rehabilitation, baseline data including 6MWD, maximal work load (Wmax), peripheral muscle force, lung function, fat-free mass (FFM) and dyspnoea (MMRC score) of 255 men with occupational lung diseases (asthma, asbestosis, silicosis, COPD) were evaluated. Results 6MWD (mean 502m, SD 92m) correlated ($r=0.51$, $p<0.05$) with Wmax (mean 112Watt, SD 35Watt), without systematic differences between asthma, silicosis and COPD. The asbestosis group was evaluated separately since the regression line was different. Muscle force, lung function parameters and MMRC score correlated moderately with Wmax ($p<0.05$ each). Including all statistically significant predictors the correlation was $r=0.76$ in patients with obstructive lung function impairment and $r=0.61$ in asbestosis patients. The residual standard deviations of predicted Wmax were 20-28 Watt, depending on the predictors used, and the 95% prediction intervals of Wmax based on the predictor 6MWD 47-65 Watt. Conclusions Compared to literature data we observed weaker correlations indicating that a sufficiently reliable prediction of individual Wmax by 6MWD or related measures is not possible. Despite this, the regression lines based on a large sample of subjects might be useful for the comparison of epidemiological studies.