European Respiratory Society
Annual Congress 2012

Abstract Number: 2141

Publication Number: P613

Abstract Group: 1.2. Rehabilitation and Chronic Care

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

Title: Physical activity and sleep duration following hospitalisation with exacerbation of COPD vs. stable COPD & age matched controls

Dr. Dilber 18160 Yilmaz drdilberyilmaz@gmail.com MD [1], Dr. James 18161 Dodd jdodd@sgul.ac.uk MD [1], Dr. Dinesh 18162 Shrikrishna dinesh.shrikrishna@nhs.net MD [2], Dr. Nick 18163 Hopkinson n.hopkinson@imperial.ac.uk MD [2] and Prof. Paul 18164 Jones pjones@sgul.ac.uk MD [1]. [1] Clinical Sciences, St. George's University, London, United Kingdom and [2] Muscle Laboratory, Royal Brompton Hospital, London, United Kingdom .

Body: Background Exacerbations are known to reduce physical activity, but little is known about their effect on sleep. Aim This study measures physical activity and sleep quantity in patients recovering at home following hospitalisation for a COPD exacerbation and compares them with stable COPD patients and controls. Methods We recruited 23 COPD patients immediately following hospital admission for exacerbation (Acute), 34 stable COPD patients (Stable) and 19 age-matched people (Control). Physical activity and sleep duration were measured using a SenseWear Pro3 armband for 6 consecutive days. Average number of steps, time lying, walking, sleep and resting were calculated per day. Physical activity level (PAL) was calculated by dividing total energy by resting energy. Results The mean FEV_1 was 54±24% pred for the Stable and 39±14% pred for the Acute. Activity data are tabulated.

	Control	Stable	Acute	p-value
Sleep(hr,min)	6hr 32min ± 55min	6hr 50min ± 1hr 13min	5hr 23min ± 1hr 45min	0.001
Walking(hr,min)	5hr 32min ± 1hr 38min	4hr 22min ± 1hr 58min	2hr 49min ± 1hr 51min	<0.001
Lying(hr,min)	1hr 35min ± 51min	1hr 53min ± 1hr 10min	1hr 50min ± 53min	0.57
Resting(hr,min)	10hr 17min ± 1hr 28min	10hr 46min ± 2hr 1min	13hr 54min ± 2hr 46min	<0.001
PAL	1.6 ± 0.3	1.5 ± 0.2	1.4 ± 0.2	0.010
Daily step count	8433 ± 2923	5581 ± 3475	3062 ± 3124	<0.001
Step Rate(per min)	25 ± 6	20 ± 6	15 ± 6	<0.001

Groups were compared using ANOVA. Acute patients had fewer steps, less walking time, lower step rate and less sleep than Stable and Control. Acute patients slept 1hr 45min less than Stable patients. Conclusion Following discharge, exacerbating patients walk less, more slowly and sleep less than stable

COPD patients.