European Respiratory Society
Annual Congress 2012

Abstract Number: 249

Publication Number: P3644

Abstract Group: 1.5. Diffuse Parenchymal Lung Disease

Keyword 1: Sarcoidosis **Keyword 2:** Exercise **Keyword 3:** Spirometry

Title: The relationship between the shuttle walk test, lung function and BMI in patients with sarcoidosis

Dr. Rebecca 833 Frank rct@doctors.org.uk [1], Dr. Colm 834 Leonard colm.leonard@uhsm.nhs.uk MD [1], Dr. Jayne 835 Holme jayne.holme@uhsm.nhs.uk [1] and RN. Annette 1552 Duck aduck@nhs.net [1]. [1] North West Lung Centre, University Hospital of South Manchester NHS Foundation Trust, Manchester, United Kingdom, M23 9LT .

Body: Introduction Monitoring patients with sarcoidosis is important and challenging. The incremental shuttle walk test is used in outpatient settings and we assessed its correlation with lung function, BMI and age. Method A retrospective study of data from 63 patients with sarcoidosis who had had a shuttle walk with their lung function tests. Spearman's correlation coefficient r_s was used to assess the relationship between the shuttle walk (distance walked, oxygen saturations) and Borg score (before and after exercise), with lung function (FEV1, FVC and DLCO[% predicted]), age and BMI. A stepwise multiple linear regression model of distance walked was developed. Results Correlation is seen between the shuttle walk and lung function.(table1)The distance walked also correlated with age (r_s=-.372, p=.003) and BMI (r_s=-.303, p=.016). There was correlation between the Borg score post exercise and the BMI (r_s=.253, p=.046). The multiple regression model of distance walked identified BMI (t=-3.195, p=.002), age (t=-2.963, p=.002) and FEV1 (t=3.061, p=.003) as significant independent variables.

Correlation between shuttle walk test and lung function

	FEV1%		FVC%		DLCO%	
	r_s	p Value	r_s	p Value	r_s	p Value
Distance	.367	.003	.325	.009	.332	.009
Resting saturations	.364	.003	.411	.001	.392	.002
Saturations post exercise	.454	.000	.550	.000	.641	.000
Change in saturation	-.309	.014	-.425	.001	-.561	.000
Resting Borg score	-.397	.001	-.330	.008	.339	.007
Borg score post exercise	-.285	.024	-.231	.068	.276	.031

r_s Spearman's correlation coefficient

Conclusion The shuttle walk test may be useful in monitoring patients with sarcoidosis as it correlates with lung function. The influence of BMI on distance walked cannot be underestimated.