Abstract P277 Figure 1   2-year survival analysis by tercile of sedentary behaviour

SB time is not confounded by this limitation and may be a more reliable measurement of activity in patients with severe exercise limitation such as IPF.

Methods Thirty-nine IPF patients wore a GENEActiv actiwatch continually for 7 days. Participants underwent measurement of forced vital capacity (FVC), diffusion capacity of carbon monoxide (DLCO), 6 minute walk distance (6MWD)

Results Valid data was downloaded from 35 of the 39 participants (89.7%). Mean acceleration intensity recorded in the most active 5 hours of each day (M5; in milli-g) were 43.8 milli-g and time spent in SB was 551.7 minutes per day, higher than estimates of time in SB in similar age demographics in previous studies. Daily SB time correlated moderately with M5 values (pearson correlation −0.366, p = 0.030). Only M5 values predicted time in SB. No variability in SB time was seen by day of the week. There was a trend towards higher one and two year mortality with greater periods of time in SB.

Conclusions Wrist-worn accelerometers reliably collected data and were well tolerated. IPF patients spent long periods of time in sedentary behaviours. Of the standard clinical measures used, 6MWD predicted daily activity but not SB time; no clinical measures predicted SB time. Increased time in SB may be associated with poorer outcomes in IPF patients; replacing time in SB with light activity may be a more achievable goal than increasing moderate or vigorous activity levels in IPF patients and improve outcomes.

Over 4000 new cases of IPF are diagnosed each year with a poor prognosis and median survival time of 3 to 5 years. Assessments of exercise performance using the 6-minute walk test (6MWT) have been shown to be useful in predicting survival in a variety of pulmonary conditions.

Aim We wished to determine if indices of the six-minute walk test could predict survival in patients with IPF at one year and long-term survival.

Methods We undertook a retrospective data analysis of patients with a confirmed diagnosis of IPF over the last 4 years. Data was obtained on 86 patients, who were divided into Group 1 – survivors (n = 56) and Group 2 – non-survivors (n = 30).

Indices obtained from the 6MWT included SpO_2, min, median SpO_2 rest, BORG scores, HR,rest and HR,max and distance walked. Spirometry, static lung volumes, and date of death were also recorded. Data are presented as median (IQR) in the format (Group 1 vs Group 2). Kaplan-Meier analysis was used to compared various indices and between groups.

Results There was no significant differences between the two groups for FEV_1 (2.0 (0.58) vs 2.01 (0.55)), FVC (2.83 (1.16) vs 2.52 (0.88)) or TLC (4.19 (1.58) vs 4.09 (1.62)). From the 6 MWT, SpO_2,rest was not significantly different (95 (2) vs 94 (5.5)), nor were HRrest, HRmax or BORG scores.

There was a significant difference for SpO2, min (90 (8) vs 84 (13); p < 0.01) and distance walked (380 (140) vs 340 (180); p < 0.05). Kaplan-Meier analysis was used to assess outcomes for distance walked of < or >250 m and 350 m and SpO_2, min < or >85% and 88%.

P278   **DOES THE SIX-MINUTE WALK TEST PREDICT SURVIVAL AT ONE YEAR AND IN THE LONGER TERM IN PATIENTS IDIOPATHIC PULMONARY FIBROSIS (IPF)?**

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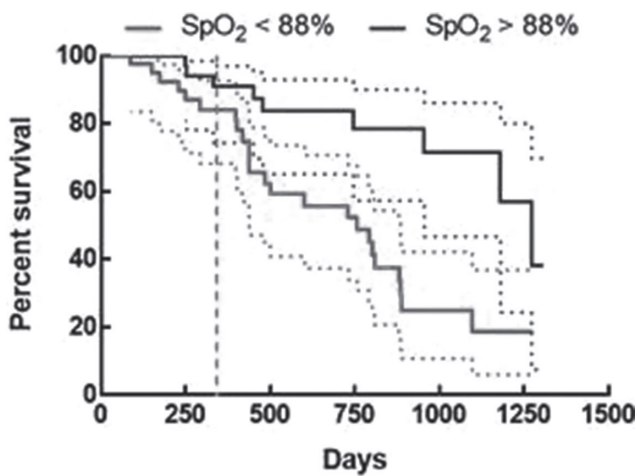
Abstract P278 Figure 1 Kaplan-Metre survival curve for SpO_2 min <88% (red line) and >88% (blue line). The green dashed line plotted shows survival of 365 days of 90%. The bkue and red dotted lines are the 95% confidence interval for survival.

For an SpO_2, min cut-off of 85%, survival was 791 (<85%) and 1181 (>85%) days ($p < 0.05$; hazard ratio 3.356). With a cut-off of 88%, survival was 757 (<88%) and 1272 (>88%) days ($p = 0.0012$; hazard ratio 3.161). Survival at one year as 84% (<88%) and 91% (>88%) (Figure).

Distanced walked was not significantly different at cut-offs of 250 m or 350 m.

Conclusions From this retrospective analysis, these results suggest that a cut-off for SpO_2, min of 88% may be a useful predictor of survival at one year and in the longer term. Distance walked appears to contribute little to prediction of survival.

P279

FEASIBILITY OF AN 8-WEEK OUT-PATIENT INSPIRATORY MUSCLE TRAINING (IMT) PROGRAMME IN PATIENTS WITH INTERSTITIAL LUNG DISEASE (ILD)

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Introduction The 2013 ATS/ERS guidelines on Pulmonary Rehabilitation suggest that IMT confers significant improvements in various outcomes in chronic obstructive pulmonary disease (COPD). IMT may play a role in dyspnoea and exercise tolerance in patients with ILD; Feasibility of delivering an outpatient IMT programme for ILD is yet to be determined.

Aim The aim of this pilot-feasibility study was to assess the acceptability and practicality of delivering an outpatient IMT programme in patients with ILD.

Methods Radomised trial recruited 17 patients with ILD from St George's Hospital chest clinic, London. Inclusion criteria were: ILD patients on stable medical treatment, with breathlessness MRC >3. 9 patients (intervention group); median (IQR) DLco predicted 44 [28, 45]% underwent H-IMT; exercised at 60% of sustained maximal inspiratory pressure (SMIP); 8 patients (control group) median (IQR) DLco 39.5 [24, 60]% underwent low intensity IMT (S-IMT); exercised at 15% of SMIP. Data collection included pre-post IMT in the following outcomes: six minute walk test (6MWT), quality of life (SGRQ-I), dyspnoea:

(Borg and Dyspnoea-12), maximal inspiratory pressure (MIP) and sniff nasal inspiratory pressure (Sniff-P).

Results 76 patients were screened; 26 meet the criteria to participate. 19 (75%) consented to partake in the study. Completion rates for HIIMT was 89% (8/9), and 75% (6/8) for LIMT. HI-IMT-G exhibited significantly higher MIP compared to LI-IMT-G ($p = 0.043$).There were no significant between-group differences in the other parameters. Within group analysis demonstrated that: HI-IMT improved significantly on 6MWT, MIP, Sniff-P, and SGRQ-I. LI-IMT, improved significantly on 6MWT, Borg and D-12 (Table 1).

Conclusions HI-IMT was well tolerated and accepted by ILD patients, and it demonstrated improvements in measured outcomes; IMT requires close monitoring and input to enhance motivation; this type of training can only fit small groups of patients and the extra cost should be considered. IMT may be an alternative option to exercise training for ILD patients to ameliorate dyspnoea and combat exercise deconditioning; larger studies are required to explore effectiveness and cost effectiveness of IMT in ILD.

Abstract P279 Table 1

	Training group (n = 9)		Control group (n = 8)		Between group changes
	Change from baseline	P value	Change from baseline	P value	P value
6MWT-D (m)	57.50 [11.25, 120]	0.027*	60 [30, 98.5]	0.027*	0.9
Borg-D	−1.00 [−1.00, (−2.00)]	0.059	−1.5 [0.00, (−2.00)]	0.015*	0.9
(D-12)-D	−1.00 [−0.75, 4.00]	0.462	−1.5[−1.00, (−11.00)]	0.026*	0.282
MIP-D (cmH₂0)	15.00 [11, 25.50]	0.012*	3.50 [−2.50, 11.50]	0.207	0.043*
Sniff-D (cmH₂0)	15.00 [5.50, 26.00]	0.025*	4.40 [3.25, 11.25]	0.027*	0.142
CAT-D	−0.50 [−4.75, 1.50]	0.248	−1.50 [−4.25, 2.50]	0.500	0.9
(SGQ-I)-D	−10.61[−14.5, (−5.05)]	0.025*	−8.8 [−27.1, (−2.9)]	0.075	0.9

P280

PULMONARY REHABILITATION (PR) FOR INTERSTITIAL LUNG DISEASE (ILD). DO PATIENTS' PERCEPTIONS MATCH FUNCTIONAL OUTCOMES?

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Introduction ILD refers to a group of fibrotic lung conditions that differ in terms of treatment, prognosis and association. The NICE quality statement (2015) supports PR for patients with IPF, the most common form of ILD. There is no clear guidance for delivery of PR to ILD patients, so current practice is to extrapolate from the benefits of PR in COPD (Spruit et al, 2013), despite the differing pathophysiology.

Aim The focus of the study was to observe the patients' perceptions of a modified ILD PR programme against functional and health related quantitative measures.