

Abstract P141 table 1

No. of questionnaires used	1	2	3	4	5
No. of services	4	15	8	4	1

Conclusions PR is not available in five PCTs, despite evidence for its value, and capacity does not match need. Half of PCTs offer post-PR programmes reflecting demand from patients who complete PR. Studies of the value of maintenance PR are now needed. Reducing unwarranted variation in assessment process (questionnaires and walking tests), and completion (definition and rates) using standardised approaches to delivery and measurement would potentially release capacity for unmet need.

P142 PEDOMETER AND ACTIVITY MONITOR STEP COUNT RELIABILITY COMPARED TO VISUAL DURING WALKING IN PATIENTS WITH CHRONIC RESPIRATORY DISEASE

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Introduction Chronic respiratory disease (CRD) is associated with reduced physical activity (PA), which pulmonary rehabilitation (PR) can improve. There are a variety of devices which monitor PA. Activity monitors (AM) are relatively small devices which utilise several accelerometers, temperature sensors and the galvanic skin response to provide data regarding energy expenditure, metabolic equivalents and step counts. However, AM's are expensive compared to pedometers and do not provide instant feedback. Our aim was to assess the reliability of step counting by pedometers and AM's compared to visual counts at varying walking speeds in patients with CRD.

Methods 48 patients with CRD wore a Yamax pedometer and a Sensewear Pro³ AM during an ESWT as part of their PR discharge assessment. Speeds were calculated from ISWT and patients had performed the ESWT at baseline, in line with standardised guidelines. Patients requiring walking aids were excluded. Step counts were measured by the pedometer, AM and visually by a separate assessor. Visual step counts were considered "gold-standard" for comparison. For analysis, average step counts for 1 min were calculated at slow, medium and fast speeds. A Friedman's ANOVA test with post-hoc Wilcoxon signed rank was used to compare visual step counts to the pedometer and AM, as the data were not normally distributed.

Results The Friedman's ANOVA demonstrated there was a significant difference between the pedometer, AM and visual step counts at slow ($p=0.0001$) and medium ($p=0.009$) speeds but not at fast speeds ($p=0.174$). Abstract P142 table 1 demonstrates where the differences are between the pedometer, AM and visual step counts from the Wilcoxon signed rank test.

Conclusions At slow and medium walking speeds, there was a significant difference between visual counts and the pedometer and AM. There was also a significant difference between the AM and pedometer at slow speeds. At fast walking speeds there was no significant difference between the visual, pedometer and AM step counts. Overall, both the pedometer and AM underestimated steps at slow and medium walking speeds and are therefore not be suitable for use in patients with CRD who often walk slowly.

Abstract P142 Table 1

Speed	Mean visual steps (SD)	Mean AM steps (SD)	p Value between visual and AM	Mean pedometer steps (SD)	p Value between visual and pedometer	p Value between pedometer and AM
Slow (1.78–2.72 km/h)	79.46 (15.72)	67.98 (15.47)	0.001*	59.43 (22.31)	0.001*	0.023*
Medium (3.00–3.79 km/h)	96.19 (9.80)	77.50 (27.26)	0.004*	72.04 (38.40)	0.003*	0.836
Fast (4.11–5.54 km/h)	107.00 (14.18)	102.42 (16.46)	0.134	105.19 (24.80)	0.605	0.255

* denotes significant difference ($p=0.0167$ after bonferroni correction).

P143 EXPLORATION OF PATIENT ACTIVITY LEVELS FOLLOWING THORACOTOMY AND LUNG RESECTION

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Background Reduced activity is a routine observation following major surgery, however no studies have yet measured or explored this. Causative factors include sedative drugs, reduced exercise tolerance and pain, as well as pre-existing pathology. We aimed to measure postoperative activity and observe outcomes of thoracotomy and lung resection patients, as well as identify predictive factors.

Methods A prospective observational study was conducted in a regional thoracic surgery centre. Sense Wear Pro 3 armbands were worn by patients from postoperative day (POD) 1 to 4. Post-operative physiotherapy included early mobilisation, which was progressed daily.

Results 99 patients were observed, 46 male (46%) and 92 (93%) had lung cancer. Mean (SD) age was 67 (± 10) years and percentage predicted FEV₁ 75% (± 19). During PODs 2/3 patients took a median (IQR) of 472 (908) steps with >99% of time spent in sedentary activity (<3 METs). Low activity was defined as <500 steps during PODs 2/3 ($n=50$), and high activity >500 steps ($n=49$). Patients with lower activity demonstrated a median of only 220 (282) steps compared to 1128 (960) in more active patients ($p<0.001$), less time spent in moderate activity >3 METs ($p=0.003$) and more perceived pain during PODs 2/3 ($p=0.013$ and 0.004 respectively). Frequency of postoperative pulmonary complication (PPC) was 4% ($n=2$) vs 20% ($n=10$) ($p=0.34$) in patients with lower activity, with a median LOS of 6 (3) days vs 5 (2) days ($p=0.013$). Logistic regression identified age =75 years, predicted FEV₁ <70% and poor preoperative activity to be predictive of reduced postoperative activity, and COPD predictive of PPC ($p<0.05$).

Conclusion Low activity levels following thoracotomy are common despite regular physiotherapy; studies measuring pre and post-operative activity are needed to reveal the exact impact of surgery. It is not known whether reduced activity may cause PPC, or vice versa, and studies randomising patients to lower/ higher activity are needed to confirm this. Predictive factors could potentially be modified by preoperative physiotherapy/rehabilitation, and targeted postoperative exercise and escalation of analgesia may also be beneficial, however, evaluation of these strategies is required.

P144 EVALUATION OF MULTIDISCIPLINARY PULMONARY REHABILITATION EDUCATION DELIVERED BY EITHER DVD OR SPOKEN TALK

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Introduction Education is a core component of a multidisciplinary Pulmonary Rehabilitation (PR) programme. It is commonly delivered as a spoken session. This can create delivery problems when speakers are unavailable, and adds to the costs of a PR programme.