Abstract P226 Table 1.

	CA (n=23)	AA (n=27)	ADULT (n=50)	COPD (n=50)	HA (n=50)
Spiromax: Before enhanced training					
PIF, L/min	69.5 (17.2)	67.9 (15.10)	74.4 (18.1)	57.5 (21.0)	85.0 (13.6)
ΔP, kPa	5.0 (2.5)	4.7 (2.2)	5.7 (2.6)	3.7 (2.7)	7.3 (2.3)
ACC, kPa/s)	13.6 (11.8)	12.1 (8.8)	15.6 (15.7)	11.0 (12.8)	15.9 (13.5)
Turbuhaler: Before enhanced training					
PIF, L/min	58.5 (14.7)	57.8 (13.4)	65.4 (17.5)	50.1 (16.2)	78.0 (11.8)
ΔP, kPa	3.9 (2.0)	3.9 (1.8)	5.1 (2.6)	3.1 (2.0)	7.0 (2.1)
ACC, kPa/s	11.3 (8.5)	11.4 (7.2)	13.0 (12.1)	8.4 (9.5)	12.8 (9.6)
Spiromax: % improvement after enhanced training					
Improvement in ΔP, % (SD)	53.46 (60.32)		49.30 (74.81)	35.94 (81.15)	46.36 (58.85)
Improvement in ACC, % (SD)	165.71 (231.22)		247.72 (482.94)	152.83 (233.91)	212.09 (284.44)
Turbuhaler: % improvement after enhanced training					
Improvement in ΔP, % (SD)	67.44 (68.36)		57.12 (89.53)	60.30 (73.15)	44.96 (55.92)
Improvement in ACC, % (SD)	221.64 (335.34)		188.77 (271.47)	254.32 (426.12)	275.05 (389.83)

All values are mean, standard deviation (SD) unless otherwise indicated.ACC = inspiratory acceleration; FEV_1, forced expiratory volume in 1 second; PIF, peak inspiratory flow; ΔP, maximum pressure change

training with a focus on maximising inspiratory effort produced significant improvement in inhalation parameters with both devices, and significantly greater improvements in these parameters with Spiromax versus Turbuhaler in adult patients.

REFERENCES

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P227 EFFECT OF A NEW TRAINING DEVICE ON PMDI TECHNIQUE

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Introduction A simple training device (In-Check Flo-Tone®) has been developed to teach pMDI users when and how to actuate their inhaler via the sounding of an inspiratory flow whistle. Samples of the device plus instructions were made available to UK healthcare professionals who were invited, from April 2013, to take part in a short questionnaire survey. The objective was to assess the effect of the Flo-Tone device on pMDI technique.

Method Patient details (age, sex, asthma/COPD diagnosis and spacer use) were recorded. Four assessments were made by the healthcare professionals concerning the patients' ability to: Q1 - generate an appropriate flow rate; Q2 - press the can during the early part of the inspiration; Q3 - maintain adequate inspiratory flow after pressing the can; and Q4 - an overall assessment of pMDI technique. Ability was graded Poor, Average or Good on each occasion. Assessments were made before and after Flo-Tone training, and changes in technique were determined from the responses. A sign-test for improvement was carried out on those not already assessed as Good.

Results To date, 27 assessments of pMDI users have been received: 15 male and 12 female, age range 11–90 years (mean 51 years) with recorded diagnoses of asthma (n = 17) and COPD (n = 7). Four were spacer-users. The shift table (Table 1) shows the categorical changes before and after training. Following training, 19 users had improved their overall technique and 7 remained at the pre-training level (Q4); 20 had improved their ability to maintain an adequate flow and 6 remained at the pre-training level (Q3). Data for Q1 and Q2 were 15 and 12, and 8 and 18 users, respectively. The single loss of technique was an 83 year-old combined asthma/COPD patient. Analysis of those users not already rated as Good showed statistically significant improvements ($P < 0.05$) for Questions 1, 3 and 4.

Conclusion The data indicate that the Flo-Tone device may be a positive addition to the training tools available for pMDI users, and may be particularly useful for improving overall technique and the ability to generate and to maintain an adequate inspiratory flow.

Abstract P227 Table 1.

			AFTER TRAINING		
			Poor	Average	Good
Q1	BEFORE	Poor	2	3	6
		Average	0	3	6
		Good	0	0	7
Q2	BEFORE	Poor	2	3	0
		Average	1	3	5
		Good	0	0	13
Q3	BEFORE	Poor	2	3	4
		Average	1	1	13
		Good	0	0	3
Q4	BEFORE	Poor	2	3	5
		Average	1	2	11
		Good	0	0	3

P228 IMPACT OF LONG-ACTING BRONCHODILATOR THERAPY ON MORTALITY IN COPD: A REAL-LIFE RETROSPECTIVE COHORT STUDY

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Introduction and Objectives Long-acting muscarinic antagonists (LAMA) and long-acting beta-agonists (LABA) are first-line treatments for COPD. The addition of inhaled corticosteroids (ICS) is recommended for patients with frequent exacerbations who are not adequately controlled with long-acting bronchodilators. These medications have been largely evaluated independently in placebo controlled randomised trials. In this 'real-life' study we investigated the impact of these medications used independently and in combination on mortality.

Methods We conducted a retrospective cohort study using data from patients with a diagnosis of COPD in NHS Tayside between 2001 and 2010. All-cause and cardiovascular mortality was assessed using Cox proportional hazard regression after