One Respiratory Physician trained to perform EBUS in a teaching Hospital in the UK and had supervised experience for approximately 50 cases over a period of 1 year.

This learnt skill was taken abroad to another respiratory department with no prior experience in EBUS. One other colleague was nominated to take part and be trained over the introductory period of 9 months.

Typically 2 endoscopy nurses were present, and rotation of staff was controlled to maintain expertise throughout this period. On site Consultant Pathologists and a cytopathology technician were present for each procedure.

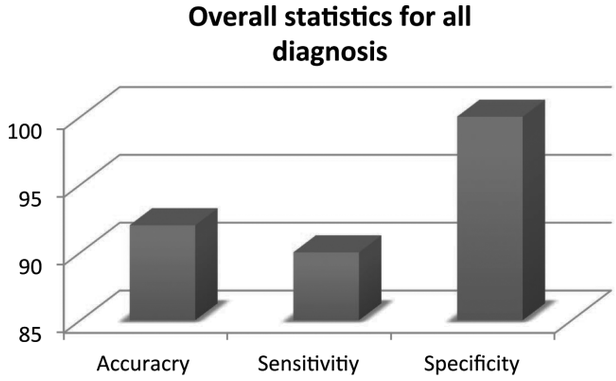
Patients underwent standard bronchoscopy then proceeded immediately to EBUS. Moderate conscious sedation was used.

A total of 50 patients went forward for EBUS-TBNA in this period. 25 were female and 25 were men with a mean age of 64.3 and 58 respectively with a range of 20 to 87 years. A total of 56 nodes were performed and the most commonly biopsied nodal stations were 7 (43%) and 4R (42%). Nodal stations biopsied included 2R, 4R, 4L, 7, 10R, and 11R.

The overall accuracy, sensitivity and specificity was 92%, 90% and 100% respectively. The accuracy, sensitivity and specificity for lung cancer diagnosis was 89%, 87% and 100% respectively. The sensitivity and accuracy for sarcoidosis was 100%.

One complication of minor bleeding was noted.

We conclude that a safe and reliable EBUS service can be started in a department where a physician has been involved with 50 cases. We postulate it takes a further 50 cases per consultant to achieve competency and in our department about 9 months at present. We think it is important to control the number of staff performing the procedures initially and this approach is associated with minimal complication and good results for our first cases.



Abstract M31 Figure 1

M32 DESIGN AND DEVELOPMENT OF A NEW PMDI TRAINING AID

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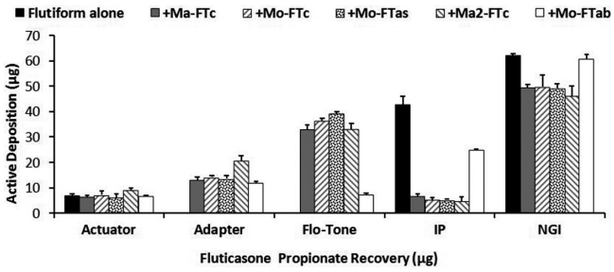
Introduction and objectives Despite differences in actuator resistance between pressurised metered dose inhalers (pMDIs), 'inhale deeply and slowly' remains universally recommended for drug delivery. Training aids to tutor inspiratory flow rate are vulnerable to resistance effects and can lead to patient error under a misconception of corrected technique. Actuator mouthpiece design can also limit availability of suitable training devices. Using the Flutiform low-resistance pMDI (Napp Laboratories Ltd), we describe here the development and testing of a suitable training aid based on the audible tone Flo-Tone trainer (Clement Clarke).

Methods Flutiform 5 µg formoterol fumarate/125 µg fluticasone propionate (4.5/115 µg ex-actuator respectively) was assessed via the Next Generation Impactor (NGI) operated at 30 L/min, alone, and together with machined (Ma) or moulded (Mo) mouthpiece adaptors attached to the commercially available Flo-Tone (FTc), anti-static plastic Flo-Tone (FTas), or an abbreviated version (FTab). All least three replicates of each were completed. Drug recovery (µg) from the actuator, adaptor, Flo-Tone, induction port and NGI was determined. The key aerosol performance parameters Fine Particle Fraction (FPF,% <5 µm) and Fine Particle Dose (FPD, µg <5 µm) were determined.

Results Formoterol and fluticasone drug delivery data trends were the same. Here we report the fluticasone data. Drug mass recovery (Figure 1) indicated that the moulded mouthpiece adaptor with abbreviated Flo-Tone (Mo-FTab) approximated most closely to Flutiform drug delivery without a training aid. All prototypes showed reduced throat (induction port) deposition. FPF% and FPD µg data for all prototypes, respectively, were: Flutiform alone, 44.8, 46.9; Ma1-FTc, 36.7, 37.3; Ma2-FTc, 33.1, 34.5; Mo-FTc, 36.0, 38.0; Mo-FTas, 34.4, 36.9; and Mo-FTab, 44.6, 46.4.



Abstract M32 Figure 1 The deposition profile of Fluticasone within test components, mean values ± SD

Conclusions This process has shown that it is possible to tailor an existing audible training aid to a specific pMDI, enabling an audible training tone at an appropriate inspiratory flow rate without drug delivery compromise. We are currently extending this design-development research to create a standardised device suitable for a range of pMDIs in popular use and that vary in actuator resistance.